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The Park Avenue Baptist Church

Henry C. Pelton, New York, and Allen & Collens, Boston, Associate Architects



Church spire.

DURING the past twenty-five years ecclesiastical architecture in this country has developed to a remarkable extent. In place of the uninspired buildings which were prevalent during the nineteenth century, there are rising throughout the country numerous buildings showing the evidence of a real knowledge of church architecture and a true feeling of the fundamentals which go to make up a structure in which the religious element is inherent in the architecture itself. To the small number of such churches in New York has recently been added another, the Park Avenue Baptist Church, at the corner of Park Avenue and 64th Street.

The requirements of this church presented a very unusual problem. Given a lot only 80 feet by 100 feet on which to construct a church, parish house, and Sunday-school, made it necessary to plan these elements one above the other, a motif somewhat unique in this type of work. The essence of the problem comes in the attempt to create a typical church exterior with these superimposed features. To do that the architects used the customary motifs of aisle, clear-story, and attic, the church proper occupying the aisle motif, the Women's Society rooms the clear-story, and the Sunday-school the attic, while the Men's Society rooms are in a high basement under the church auditorium.

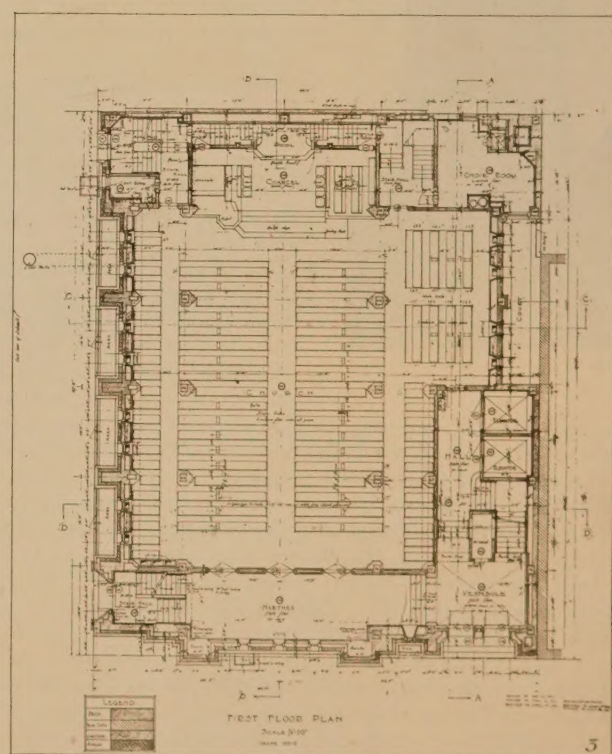
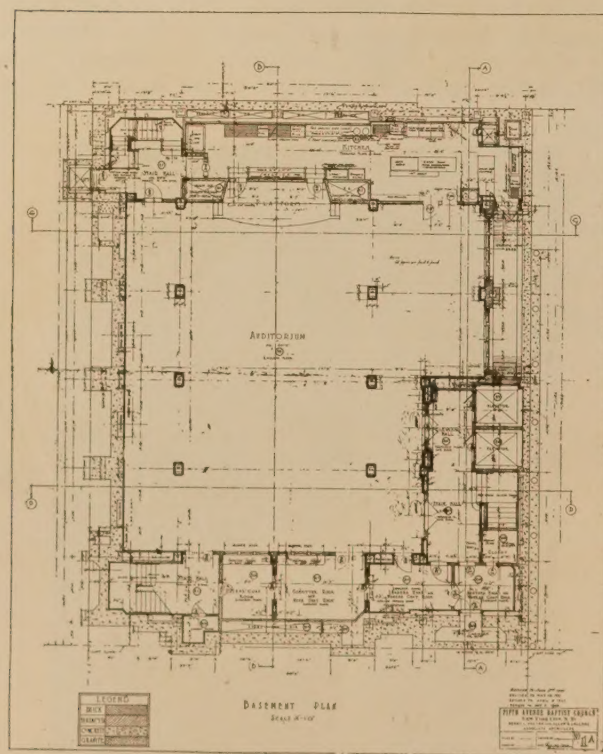
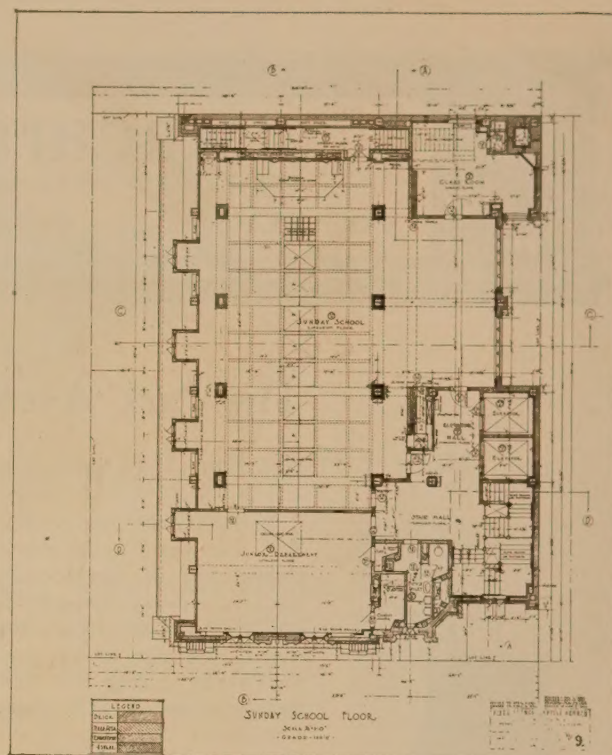
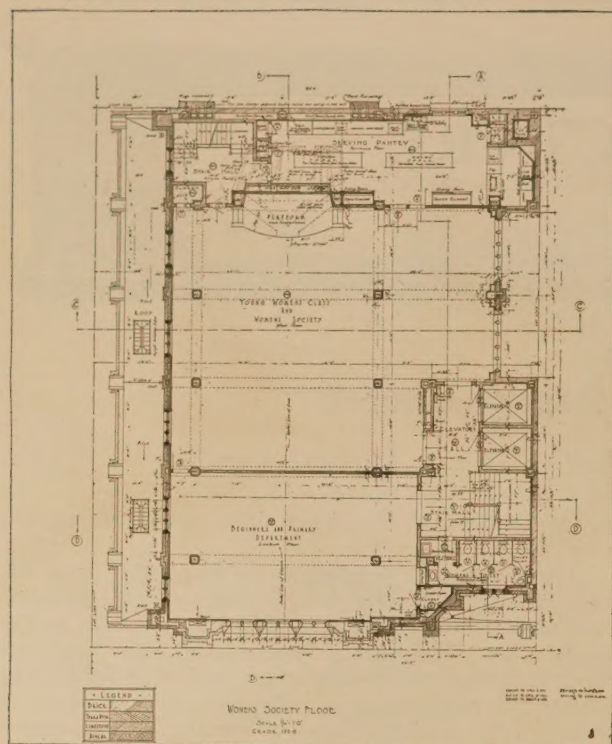
The length of the lot, only 100 feet, made a central entrance to the church an impossibility, as the various steps and vestibules would have occupied too much space, so that the main entrance to church and parish house was combined at one side in a large vestibule leading on the left to the church narthex, and on the other side opening direct into the main stairs and the two large elevators which connect

the various floors of the church offices, social rooms, and Sunday-school.

The building is designed in Gothic, using those elements of French and English Gothic best adapted to create a harmonious exterior with the restrictions imposed by the unusual plan. The front is supported by two large buttresses, somewhat wide to counteract the lack of depth made necessary by restricted space. Between these buttresses is the large nave window, divided in turn by deep secondary buttresses required to support the large mass of masonry above the window, and to carry the lines of tracery up through the upper stories and so tie the detail together as to counteract to some extent the necessary placing of the large window so low in the façade. This window is surrounded by carvings and ecclesiastical symbols, while over the whole in the centre of the gable is a canopied niche sheltering an angel. To the right of the façade, over the



Door detail, main church auditorium.



PLANS, PARK AVENUE BAPTIST CHURCH, NEW YORK.

Henry C. Pelton, New York, Allen & Collins, Boston, Associate Architects.

main entrance, are various stories of church offices, and the tower buttresses which pass through various transitions into the octagonal belfry with its upper crown and traceried windows. This belfry will later house a complete chime of bells. The side elevation on 64th Street has five bays divided by deep buttresses. Each bay is subdivided into two double lancet windows in order to increase the effect of length by a duplication of motif.

No attempt was made to develop a tower motif in connection with this church, as it was felt that the high buildings which would ultimately surround the church would necessarily dwarf any tower that could be designed in proportion to the building itself. The tower as an element in municipal church architecture loses its point of dominating over the surrounding landscape.

While the building was in course of erection, considerable publicity was given the symbolic ornamentation and carving of some of the church architecture of this city. Care was exercised in the selection of the symbols employed, so that there were none used of other than a purely ecclesiastical nature. On the exterior in the band about the large window on the front appear the ecclesiastical floral emblems—the rose, the passion-flower, the ivy, and the oak, alternated on one side with the eagle of St. John, the bull of St. Luke, the lion of St. Mark, and the angel of St. Matthew; on the other side are the same floral symbols, alternated with the pelican for piety, the hart for humility, the unicorn for chastity, and the peacock for immortality.

In the carved band at the top of the window are wolves attacking sheep, and vultures attacking doves, both symbolizing the struggle between good and evil. Directly over the centre of the window are the symbols of Christ and baptism. On the buttresses at either side of the large window are shields, in one of which is a cathedral symbolizing architecture and the church, and in the other a book symbolizing the spoken word. On the large corner buttress are the shields of the United States and the State of New York. The four ecclesiastical floral emblems again appear in a billet course above the aisle windows on 64th Street.

The church interior is treated in stone finish, the lofty columns supporting a vault over nave, aisles, and chancel. To the right of the chancel opens out a galleried transept. The arrangement of the chancel is in accordance with the best ecclesiastical precedent. On the left of the chancel steps is an octagonal oak pulpit; on the right the reading-desk. Chancel-rail, choir and deacons' stalls, organ console and dado are all of oak beautifully carved and treated with just enough color to vary the darker tone of the stained wood. In the centre of the chancel, the focal point in the church is the baptistry, the marble front of which is used as the communion table. The lofty reredos enclosing the pool is surmounted by the cross.

The chancel and reredos are as yet incomplete, in that the east window has not been installed, red velvet hangings

being draped back of this window temporarily. The dossal curtain which will hang in the pool opening in the reredos and which is a necessary part of the design is still to be hung in place.

The west window is a perpendicular Gothic window comprising six lights with tracery and was designed by Henry Wynd Young to portray some of the leading characters in Baptist church history. There are six historical figures commencing on the south with Milton, Bunyan, and Carey comprising the English side of the church, and Williams, Judson, and Wayland representing the American, while

below Carey and Williams are medallions illustrating the special work associated with their lives. The medallion below the Carey likeness has two figures representing India and holding a small model of the church that Carey built and where he carried on his labors among the natives of India. The one below the figure of Williams has a form of a red Indian chief and of a Puritan with the facsimile of the deed transferring Rhode Island to Williams. Just above the shoulders of each of the portrait figures is a quotation characteristic of each of the men represented. These quotations are, beginning with the one for Milton, "Of man's first disobedience"; for Bunyan, "I dreamed a dream"; for Carey, "To them that sit in darkness"; for Williams, "A man zealous and godly"; for Judson, "Be a disciple of Christ"; and for Wayland, "Respect your own conceptions." The whole window is built up in a strong grisaille with spots of pure color



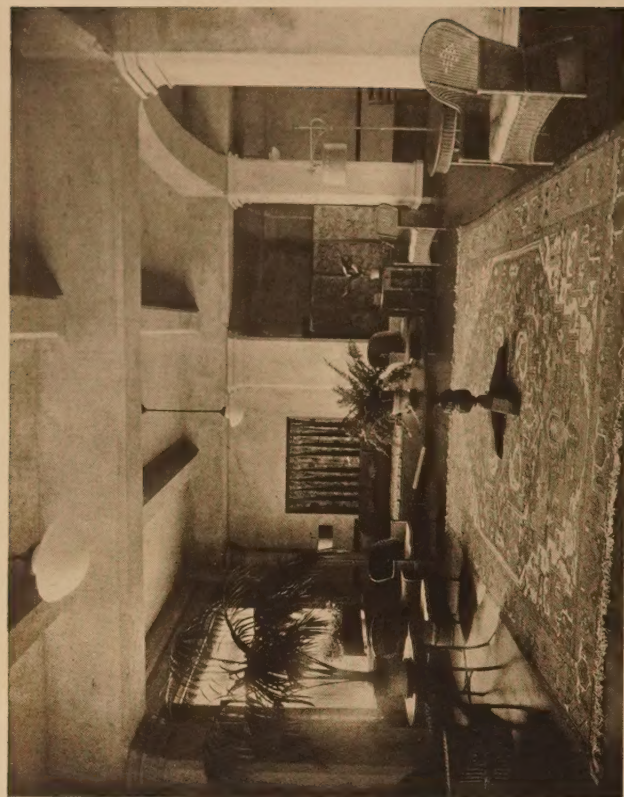
Detail, Men's auditorium, Rockefeller Bible class.

running up into very rich blues and purples in the tracery. It is the intention when the chancel-window is installed, to carry it to a very high point of excellence, so that it will be in keeping with the rest of the glass. The clear-story windows are also done in grisaille based on that in the church of St. Serge at Angers, France, so that all the interior glass is well balanced.

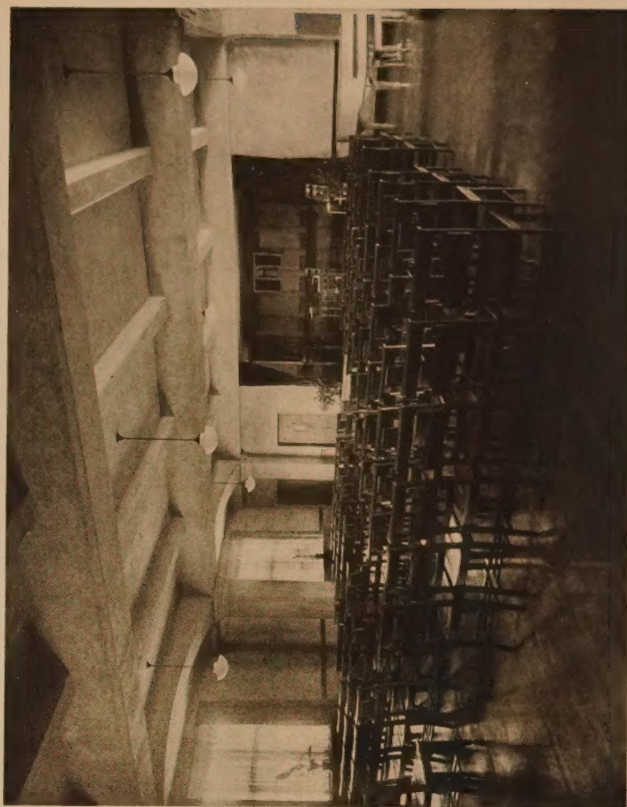
On the right side of the chancel is the organ, with a screen opening into the chancel, and an organ-case occupying the arch over the transept gallery. On the left of the west gallery is an echo organ with a fine wood screen in the organ opening.

Underneath the gallery fronts are beam heads of angels, each angel holding a shield of one of the apostles.

The building had its structural problems as well as its problems in plan and design. The old city maps show that the building site was a pond years ago and that water might be encountered. It was the intention to excavate the site with a steam-shovel, but this was out of the question when it was discovered that the entire property was practically studded with piles under the foundations of the buildings which had been removed. It was necessary to rig up a derrick and excavate by means of buckets filled by hand-shovels. The rock runs practically level over the entire property at a depth of approximately 35 feet below the curb, and while it was first the intention to carry the exterior walls



LOUNGE ALCOVE IN YOUNG WOMEN'S CLASS.



YOUNG WOMEN'S CLASS.



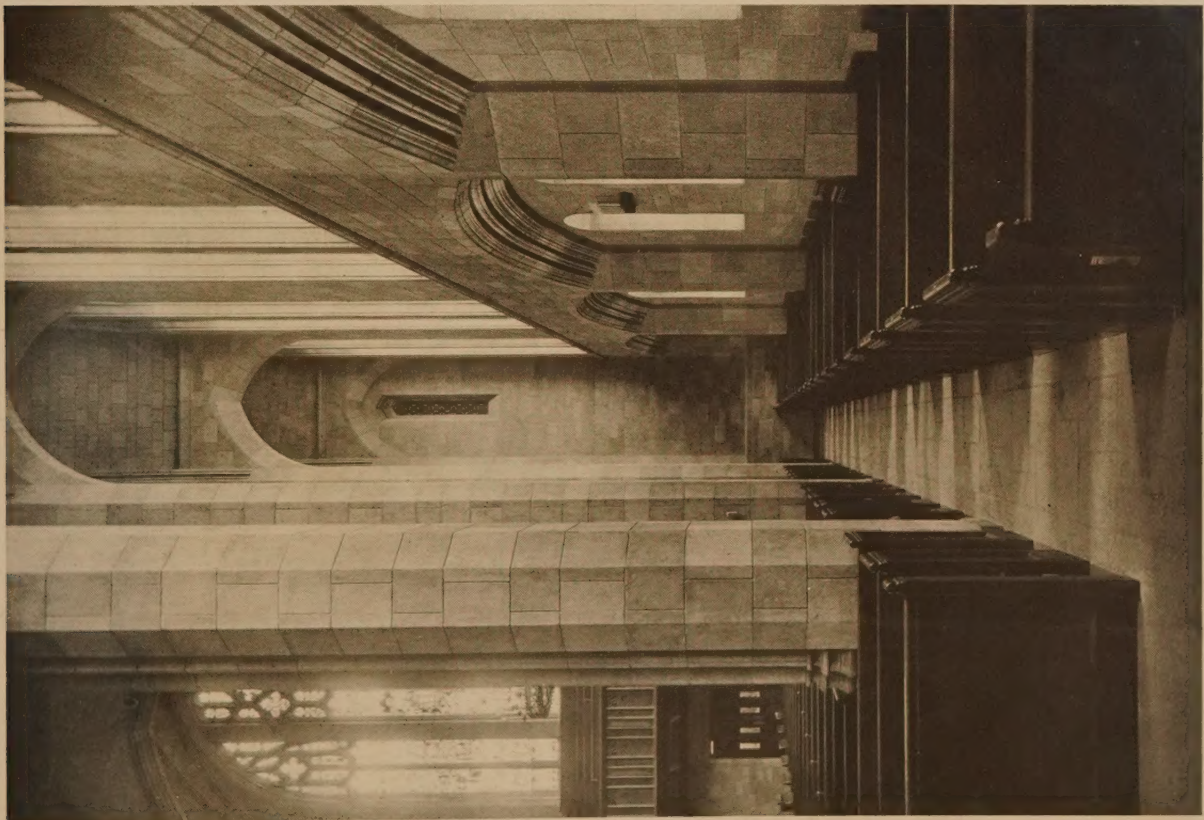
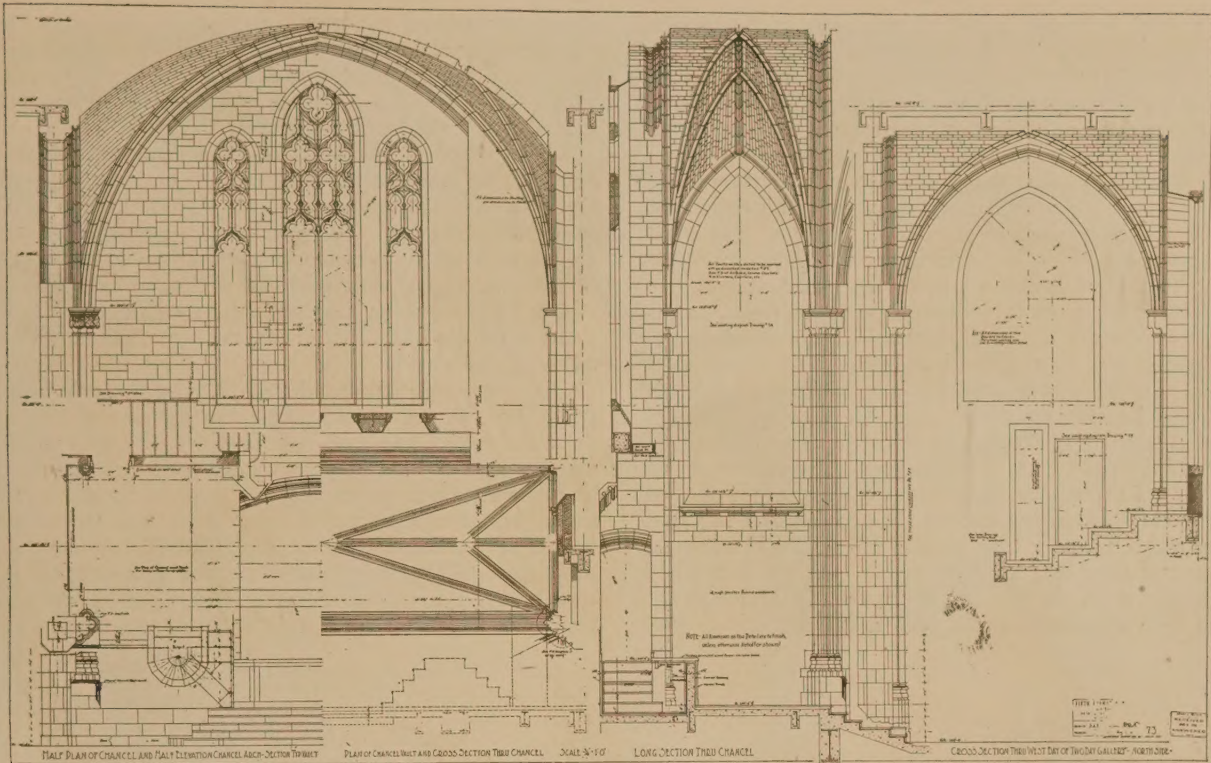
DR. WOELFKIN'S STUDY.



SUNDAY-SCHOOL CHAPEL.

PARK AVENUE BAPTIST CHURCH, NEW YORK.

Henry C. Pelton, New York; Allen & Collens, Boston, Associate Architects.



VIEW OF NORTH AISLE.

PARK AVENUE BAPTIST CHURCH, NEW YORK.

Henry C. Pelton, New York; Allen & Collens, Boston, Associate Architects.

down to rock and make a sort of coffer-dam of the foundation, this scheme was found to be out of the question when it developed that the source of the water was not only in the strata of quicksand between the rock below and clay above, but water was found to be flowing freely through numerous seams in the rock itself. When this was found to be the case, it was decided that the most economical solution would be to sink steel pipes by hydraulic jacks and fill them with concrete for the support of all column footings. The foundation walls were built of reinforced concrete from the footings up to the grade and spanned from one cluster of concrete-filled steel pipes to another, instead of trying to get down to rock with the entire length of wall, due to the water encountered and to the great expense. The composition of the clay which was excavated was such that surface water would stand in the pier-holes under the adjoining walls at a level 10 feet or 15 feet higher than the level of the general excavation of the lot. The clay was excavated to within a few feet of the quicksand, and in doing so it was decided to dig down between the piles to the desired level and then cut the piles off, rather than to withdraw them, as was tried with one of the piles, with the result that the water and quicksand started to boil into the excavation through the hole in the clay caused by the withdrawal of the pile. The

scheme of carrying the column footings on steel pipes allowing the water to flow freely under the building made it necessary to reinforce the floor of the sub-basement in addition to the walls, making a reinforced-concrete box under and around which the water would flow.

In spite of the intricacy and the care with which the detail of this building has been worked out, and in spite of the difficulties encountered in the foundations, the close co-operation between the committee, the builders, and the architects made it possible to save approximately ten per cent on the original estimated cost of the church. This may well be regarded as an achievement, in view of the fact that a part of the work was done during the high costs immediately following the war.

It is generally conceded, not only by the architectural critics but by the laymen, that the solution of this very unusual problem has been most satisfactorily accomplished, and the Park Avenue Baptist Church is to be congratulated on having realized an entirely new type of church in which the old tradition of horizontal development has been changed to one of vertical development without destroying the ecclesiastical feeling which the world for centuries has associated with the Gothic elements of aisle, clear-story, and attic.



Milton.

Bunyan.

Carey.

Williams.

Judson.

Wayland.



EMANUEL EPISCOPAL CHURCH, GREENWOOD, VA. (FOR LADY ASTOR, M. P.)

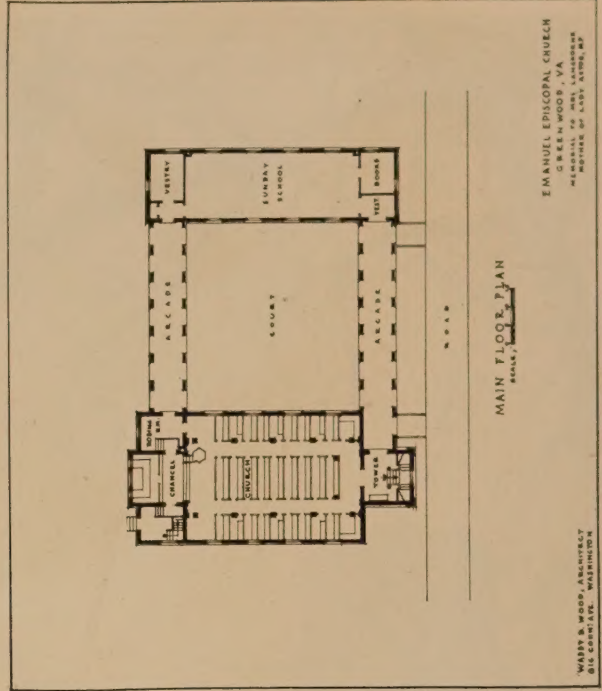
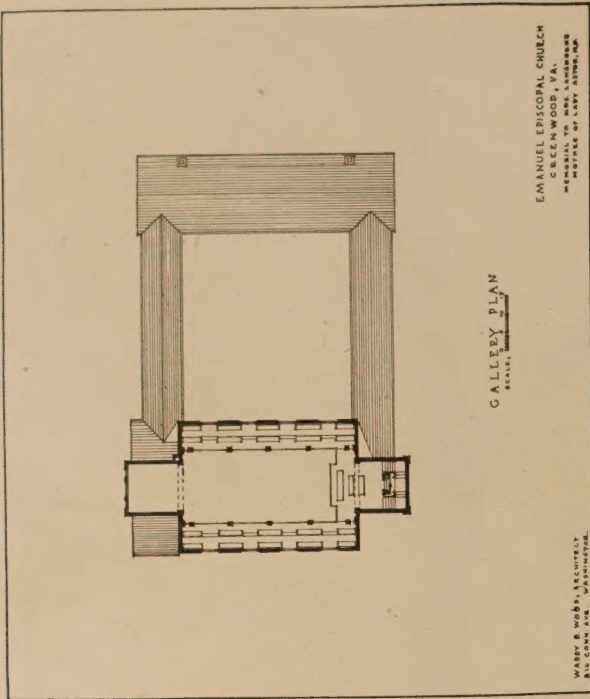
Waddy B. Wood, Architect.



CHURCH AUDITORIUM.

EMANUEL EPISCOPAL CHURCH, GREENWOOD, VA.

Waddy B. Wood, Architect.





EMANUEL EPISCOPAL CHURCH, GREENWOOD, VA.

Waddy B. Wood, Architect.



STATE CAPITOL, LINCOLN, NEB.

Bertram G. Goodhue, Architect.

THE building is in the form of an exact square of which each face is 437 feet long, including the terraces. The greater part of the exterior is rather low (two stories and attic, with basement underneath), broken at the centre of each side by a somewhat higher mass, each of which is the termination of a cross-shaped structure from the centre of which raises a great tower, 80 feet square and 400 feet high from the ground to the top of the figure on the dome. Thanks to the four courts contained within this area, every office and every room in the building receives abundant light and this without the aid of skylights and light wells.

The Nebraska capitol marks the greatest departure ever made in American state-house architecture. The plan was secured through a series of competitions given under the auspices of the American Institute of Architects. Three Nebraska men were selected in a preliminary competition in which the economic and political aspects of the problem were considered as well as architectural requirements. Seven firms of national reputation outside of Nebraska joined in the competition, which resulted in June, 1920, in the selection of Bertram G. Goodhue, of New York, as the architect of the commission.



ONE OF THE INTERIOR COURTYARDS AND A CORNER OF THE TOWER.

Each of these courts is a rectangle, 87 feet by 100 feet. It is open to the sky.



SENATE CHAMBER.

The walls here are of stone, though it is proposed to introduce in panel form and also in the ceiling a different material of high absorbent power for the sake of its acoustic effect. As elsewhere, the ceiling, which here takes the form of a pendentive dome, is decorated with gold and colored tile. Beneath the galleries that extend around the entire room is a passage separated from the Senate Chamber proper by screens on three sides and with marble columns on fourth, behind the speaker's desk and platform.

Editorial and Other Comment

If It Should Be Dreaming True—The Russell Sage Foundation Plan for New York and Environs

WE are constantly being told that architecture is a business and has little to do with art; that this is a day of facts, not dreams; that what we need is not more idealism but more of the combination with which brass tacks are made. And we are not of those who would scornfully deny the truth of this point of view, nor would we omit to say that there is a lot of so-called idealism that is nothing more than an attempt to evade honest realities and hard work and hide behind vague emotions that in their last analysis are the result of being mollicoddled, or sheer inability to put up a good fight. With this as a preface, we want to call attention to one of the greatest dreams of modern times, a dream that means an awakening after long years of dormancy and when conditions would seem overwhelmingly against success.

But with money and brains and unselfish devotion to a great cause all things seem possible, even when the thing dreamed means making over for the greater good of millions of human beings the congested region of New York City and its environs.

No one can think of the city and its suburbs without realizing the terrible waste on every side, the shocking congestion of population and sacrifice of human life, the lack of co-ordination and unity on all sides.

Something will have to be done as the city grows; present conditions have about reached the limit of toleration, and the pressure upon its limited space is fast becoming that of a stream of human beings pushed to economic and physical destruction.

The trustees of the great Russell Sage Foundation have formulated a plan for developing a comprehensive "Regional Plan of New York and Its Environs."

They have appointed a committee consisting of Charles D. Norton, chairman, Robert W. de Forest, Frederic A. Delano, John M. Glenn, Dwight W. Morrow, and Frank L. Polk, with Frederick P. Keppel as secretary and Flavel Shurtleff assistant secretary, to organize the work and to that end to co-operate with groups of citizens and public officials in the boroughs, municipalities, and local communities throughout the whole area.

Avoiding duplication of effort, the committee propose to approach their difficult problem by first organizing a series of preliminary inquiries with a view to developing and recording those basic facts and fundamental considerations which are requisite to inform public opinion and to guide the future city planners. There will be organized at least four such inquiries, as follows:

1. **ECONOMIC AND INDUSTRIAL:** An analysis of the fundamental reasons for the existence of this great centre of industry and commerce, its potentialities and the sound limitations on its future development; an inquiry into economic and occupational activities, those that create populous districts and those that follow population; a study of the land within the area, its use and taxation.

2. **PHYSICAL:** The mapping of existing topographical and other physical conditions, including railway and water transportation, harbor, "free port" and terminal facilities, bridges, ferries, main

highways, park and recreation spaces, public and quasi-public buildings, and density and distribution of day and night population; the compiling of existing local schemes for improvement.

3. **LEGAL:** A study of existing law as it controls or affects a plan for the area which includes portions of three states; an analysis of the law of zoning, excess condemnation, stabilization of official city maps, shore rights and land under water, and other subjects relating to city planning.

4. **SOCIAL AND LIVING CONDITIONS:** Studies designed to bring to the attention of the city planners those factors which have direct bearing upon human values and social welfare, and make for healthful and satisfactory housing and home surroundings, efficient work and wholesome leisure time.

After these inquiries have laid solid foundations upon which to base sound planning, the man, or the group of men, will be found to plan for New York and its environs as George Washington and Pierre l'Enfant planned for Washington, or Burnham and Bennett and their committees of business men planned for Chicago; to create a plan which, with wide public participation and approval, shall embody and record the best thought of our engineers, our artists and architects, our public servants, our social workers and economists, and far-seeing business men.

Plans, when sufficiently advanced, will be submitted to the public at large for study and criticism through groups of citizens representative of each community in the great area involved. They will be offered in no arbitrary spirit, but rather in the faith that the public will welcome comprehensive planning, and will endeavor through the proper public authorities and citizen organizations to realize to the utmost, as the decades pass, the social, the industrial, the commercial, and the artistic values of this great world capital and port.

The committee will propose no abnormal expansion of public expenditure. With a wisely conceived plan public funds which will be expended in any event can be directed into projects of permanent constructive value; without a plan millions are likely to be wasted in desultory or ill-considered public works.

This project was presented for the first time to a representative conference of public officials, engineers, architects, artists, and other public-spirited citizens, for here it is that we must find the love of order and of beauty, the lofty vision, and the skilled hands which shall depict for a vast population the dramatic and stirring possibilities of the centuries to come.

If such a rejuvenation is possible about New York, it is even more possible with some of our other great centres of population. It will take great courage, immense sums of money, and the unselfish and clear thinking of many minds with both vision and practical experience in planning.

The Convention of the American Institute

WE go to press too early with this number to publish any of the proceedings of the convention that will be held in Chicago, June 7-9, but we shall be on the ground and will have a report to make for our next issue. The convention promises to be specially interesting this year, and instead of the customary formal papers there will be a more general discussion of questions relating to architecture and industrial relations in general. Something of value should result from the pre-convention conference, June 5-6, on the question of better advertising methods for architects.

A Book for the Times

THERE is a wealth of suggestion and material especially adapted for the designer of small houses in the book on "Small French Buildings" recently published. It deals with the French architecture off the beaten track, "the farm-houses, farm groups, peasant cottages, the little and more suggestive town houses." Many of these minor buildings have charming elements of the picturesque in design and material and are easily adaptable to our local conditions. As the authors say in their Preface, "it is our hope that others may appreciate these little buildings and find in them some freshness and inspiration." We believe this is just what every architect will find in looking over the many plates made from original photographs chosen for the charm and interest of their subjects.

Atlanta Adopts Zoning

ATLANTA adopted a zoning ordinance in 1922 by a nearly unanimous vote of the council. The ordinance divides the city into dwelling-house, apartment-house, business, and industrial districts. Three classes of height districts are established with limits of 50 feet, 100 feet, and 150 feet, respectively. Building line, side yard, and rear yard requirements are established for all buildings in the residence districts. Lot area requirements are based on the number of housekeeping units for which the residence building is arranged; 5,000 square feet of lot area per family is required for much of the dwelling-house area, and 2,500 square feet of lot area per family for the areas suited to double or two-family-house development. In most of the apartment-house areas only 625 square feet per family is required, while in the limited hotel and elevator-apartment sections there is no minimum lot area requirement, though side, rear, and front yards are required.

The zoning plan and ordinance were prepared for the Atlanta Plan Commission by Robert Whitten, city planner, Cleveland, Ohio. The initial indifference or opposition of the public was overcome by an intensive educational campaign in which newspaper articles, editorials, and cartoons played an important part. Five thousand copies of a tentative zoning map and of an attractive illustrated pamphlet describing the proposed zoning and giving the reasons why zoning is necessary were distributed. Work on the zoning was started by Mr. Whitten in May, 1921, and the zoning ordinance became effective in April, 1922, a little less than a year from the time the work started. Atlanta maintains its reputation for progressiveness by being the first Southern city to adopt a comprehensive zoning plan.

Timber Surveys by Air

THAT he obtained more information regarding the timber and waterways of the country over which he had flown as the result of a few hours' air trip than he could have secured by years of travel on foot was the recent statement of a timber expert in Quebec. A flying-boat was used for this exploration and survey of the forests of the northern part of the Province, the trip of eight hundred and fifty miles being completed in twelve and one-half hours of flying. Several stops were made to complete reports of the country travelled over as well as to secure more fuel. Besides the pilot and logging expert, the party included an aerial photographer.

The results of this and similar journeys have added to the conviction of lumbermen that aircraft was extremely useful in the timber industry. In the woods of northern

Quebec alone this season, four thousand miles have been explored in flying trips. A complete camping outfit is carried on these flying-boats, including a tent, canoe, and a plentiful supply of food.

San Francisco's "American Plan"

THE general public may be interested in learning that the American Plan, as established and enforced in San Francisco by the Industrial Association, is something distinct and different from the old-time, so-called open shop. Whereas the open shop wherever enforced usually has meant the entire absence of all restriction or restraint upon employers with respect to wages paid, hours of work, and other conditions of employment—thereby giving opportunity for unscrupulous employers to deal unfairly—the American Plan in San Francisco has set up machinery for reasonable control of these matters in the interest of the public.

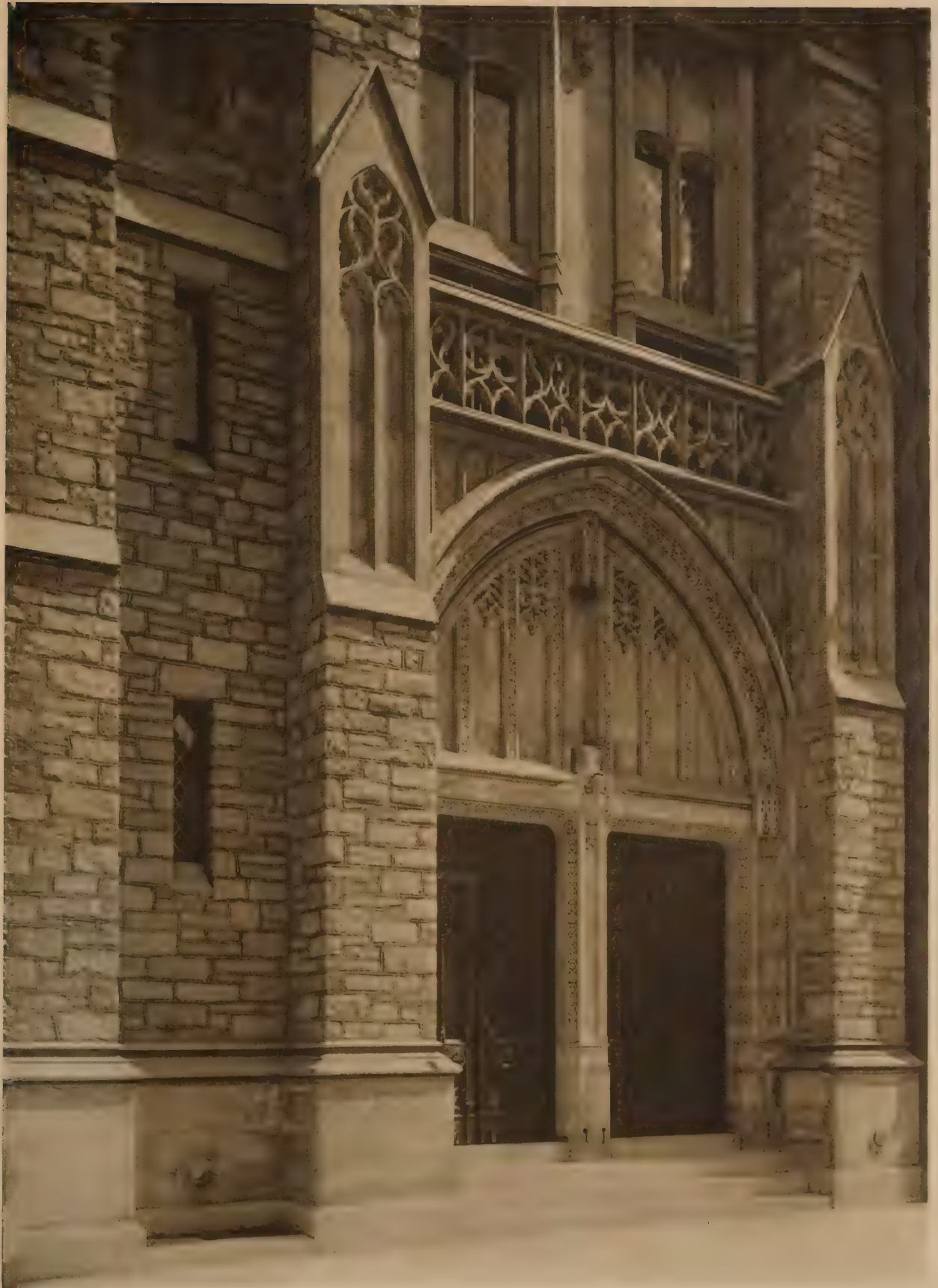
In other words, it really has been a *Plan*, definitely conceived and definitely carried out, in the interest not of any special group or faction, but in the interest of the three parties to industrial relations: the public, labor, and the employers.

The American Plan is predicated upon the proposition that the public interest is paramount to that of any other community element, and that neither labor nor capital, nor any other faction or class, should be allowed to take action that will jeopardize that interest. And, as the public interest actually would be jeopardized as much by unfairness of any kind visited by the employers upon labor or consumers as by autocratic labor-union control of industry, the American Plan prevents either of these things taking place.

The American Plan says to labor: "You cannot be allowed to secure an autocratic, selfish, and restrictive control over industry, for the result is that not only the industry itself but the whole public is seriously injured thereby." It says to the employer: "You cannot be permitted to beat down labor, for, when labor receives less than that to which it is justly entitled, not only labor but the whole public suffers seriously and is permanently injured—and we will not give you such unlimited backing that you can enter into combinations with your competitors and get a monopolistic control in your industry under cover of a community-wide organization."

Then, turning again to labor, it says: "You are entitled to an equitable wage, to reasonable hours, and to decent working conditions, but in turn you must be willing to give to your employers honest, loyal, and efficient service." And turning once more to the employer, it says: "You have the right to demand honest, loyal, and efficient service from all your employees. You are entitled to the right of hiring and discharging employees individually on merit, without outside interference, so long as on all occasions that right is exercised only upon broad principles of justice; and to the right of rewarding individual merit in employees, but in turn you must recognize the obligation of the management to the employees generally, and particularly to co-operate in providing, so far as possible, continuous employment."

Roughly and in brief that is the American Plan as established and enforced in the building industry of San Francisco by the Industrial Association. Theoretically fair, it stands proven as practically fair as well. It has freed labor from the self-imposed but misconceived restraint of selfish leadership, has emancipated employers from the throttling control of labor-unions, and has guaranteed to the public, to labor, and to the employer that all their legitimate rights will be protected at all times.



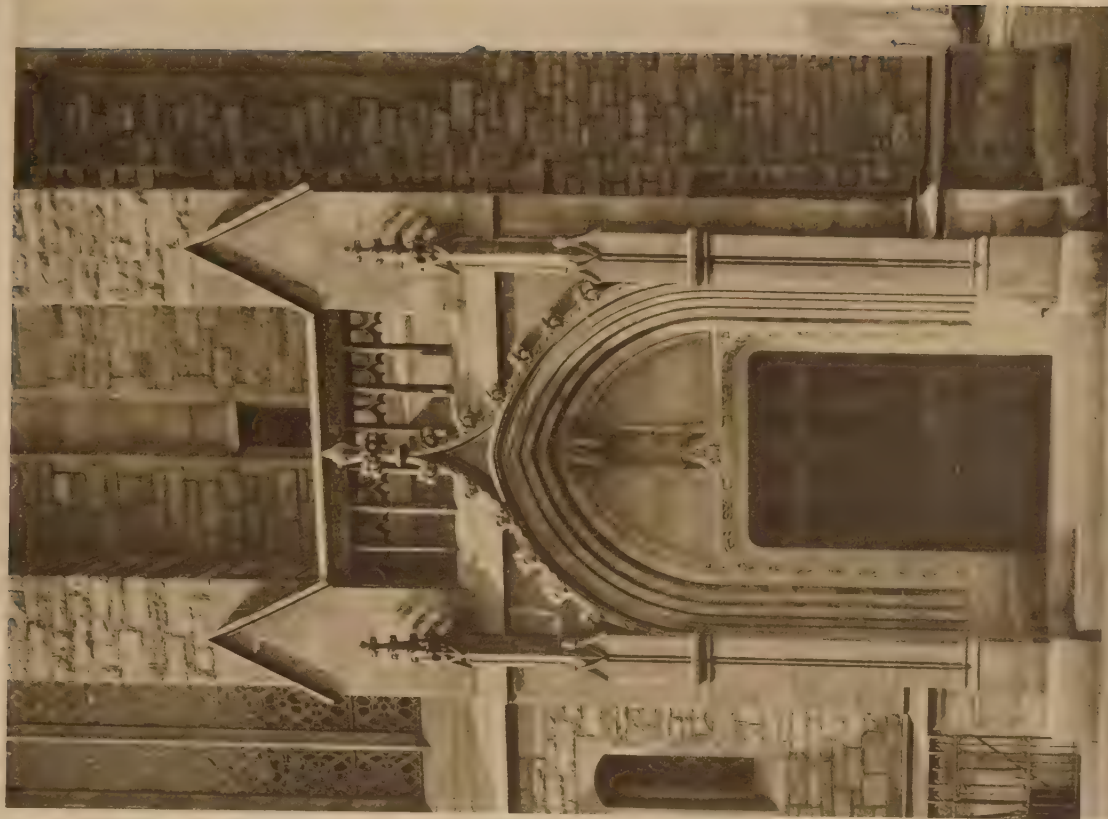
DETAIL, MAIN ENTRANCE, PARK AVENUE.

PARK AVENUE BAPTIST CHURCH, NEW YORK.

Henry C. Pelton, New York, Allen & Collens, Boston, Associate Architects.



DETAIL, NORTHEAST ENTRANCE, 64TH STREET.



DETAIL, NORTHWEST ENTRANCE, 64TH STREET.

PARK AVENUE BAPTIST CHURCH, NEW YORK.

Henry C. Pelton, New York, Allen & Collens, Boston, Associate Architects.



NAVE, MAIN CHURCH, LOOKING TOWARD CHANCEL.

PARK AVENUE BAPTIST CHURCH, NEW YORK.

Henry C. Pelton, New York, Allen & Collens, Boston, Associate Architects.

NOTE.—The memorial window over reredos and dossal curtain in baptismal pool opening in reredos are still to be installed.



NAVE, MAIN CHURCH, LOOKING TOWARD NARTHEX.

PARK AVENUE BAPTIST CHURCH, NEW YORK.

Henry C. Pelton, New York, Allen & Collens, Boston, Associate Architects.



DETAIL, PULPIT AND ORGAN CONSOLE.



DETAIL, LECTERN, CHOIR-STALLS, AND DEACONS' SEATS.

PARK AVENUE BAPTIST CHURCH, NEW YORK.

Henry C. Pelton, New York, Allen & Collens, Boston, Associate Architects.

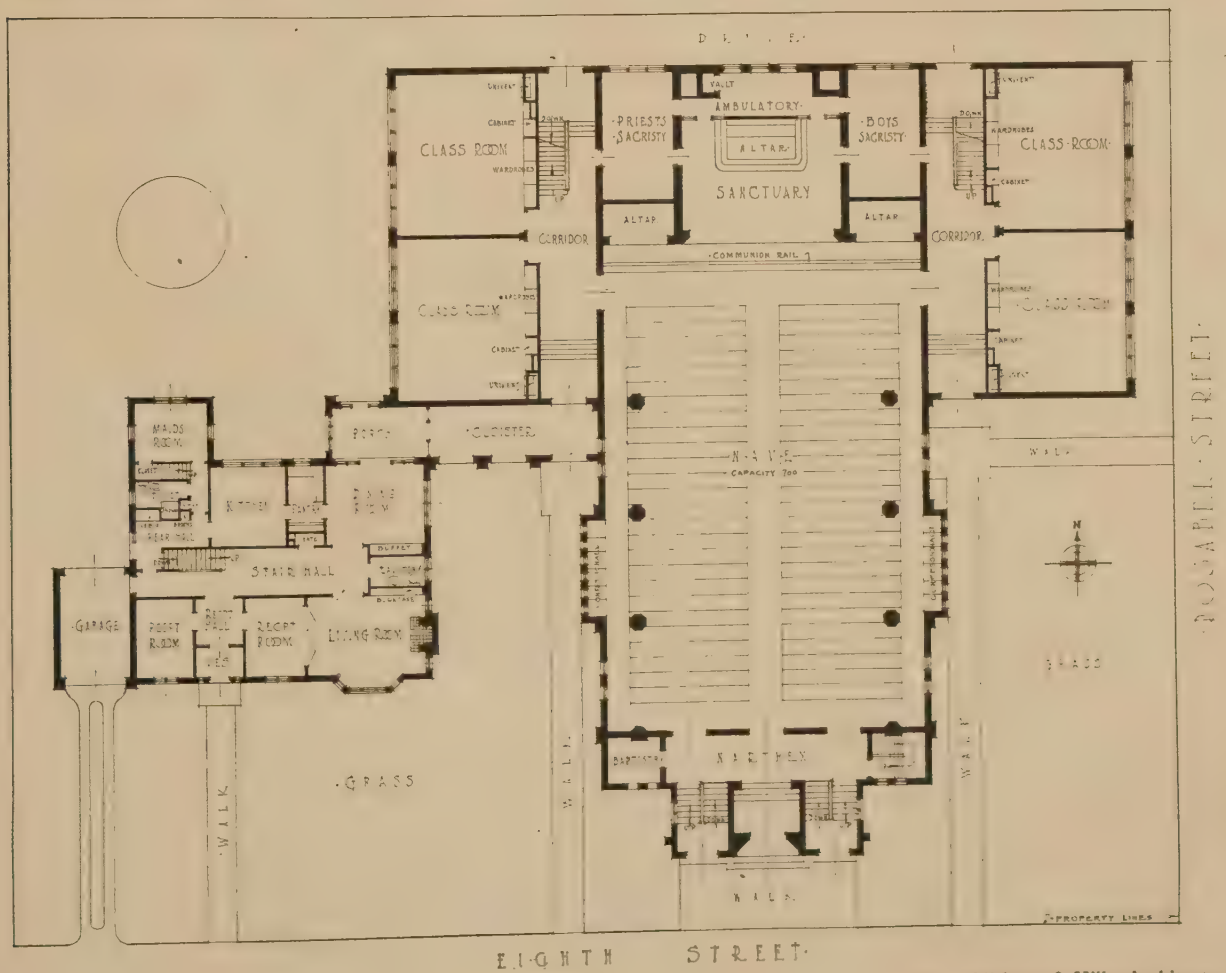


DETAIL OF WEST GALLERY.



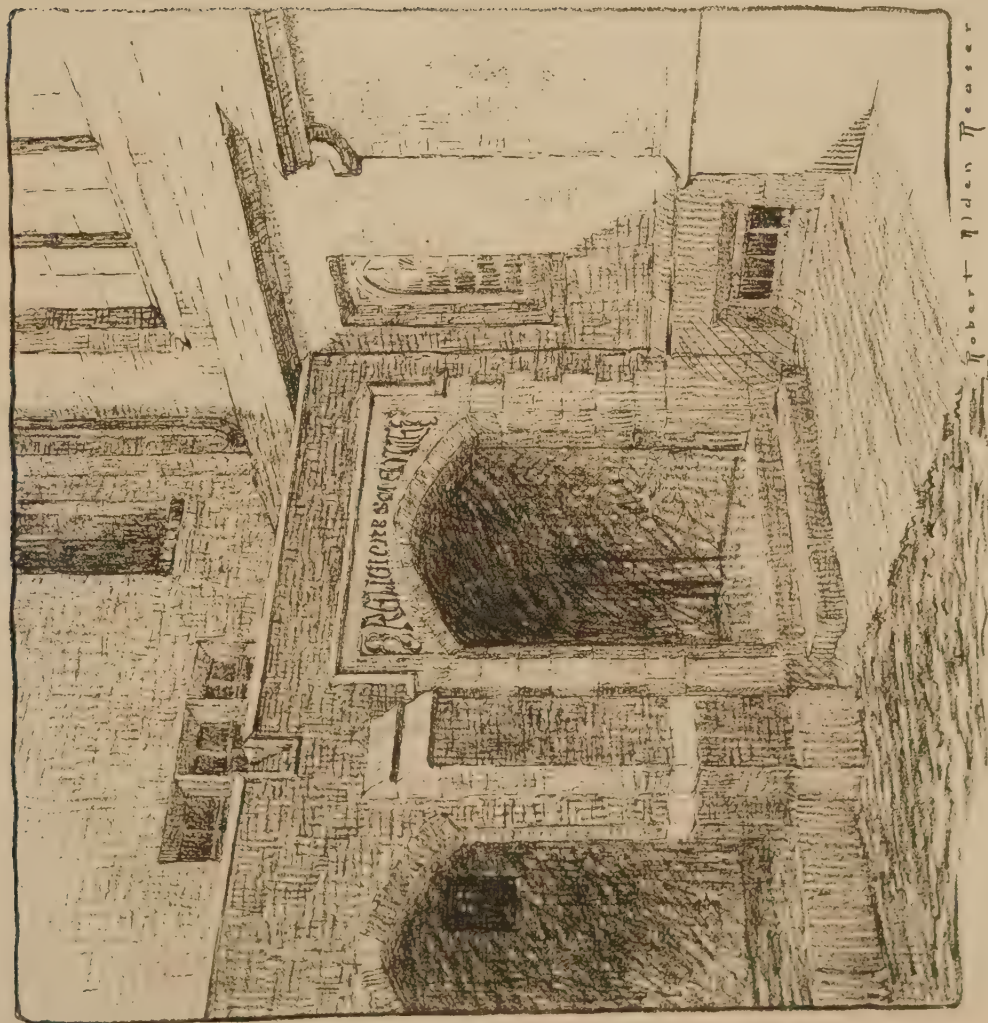
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PARK AVENUE BAPTIST CHURCH, NEW YORK.
Henry C. Pelton, New York, Allen & Collens, Boston, Associate Architects.

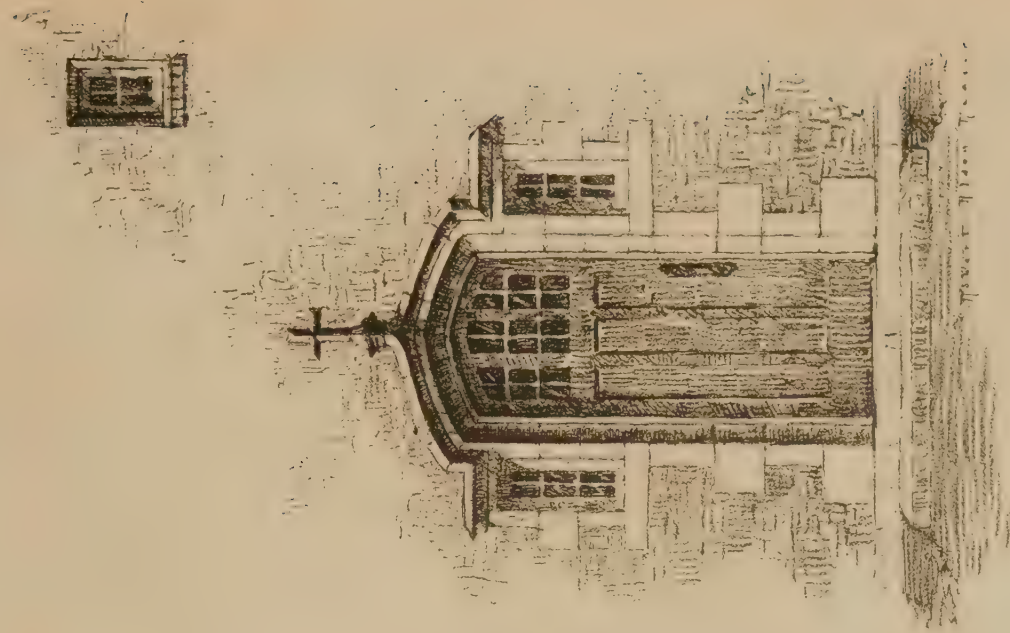


THE CHURCH OF ST. MARY, R. C., ST. PAUL, MINN.

Damon, O'Meara & Hills, Architects.



DETAIL OF ENTRANCE TO SCHOOL AND CLOISTER.



DETAIL OF RECTORY ENTRANCE.

THE CHURCH OF ST. MARY, R. C., ST. PAUL, MINN.

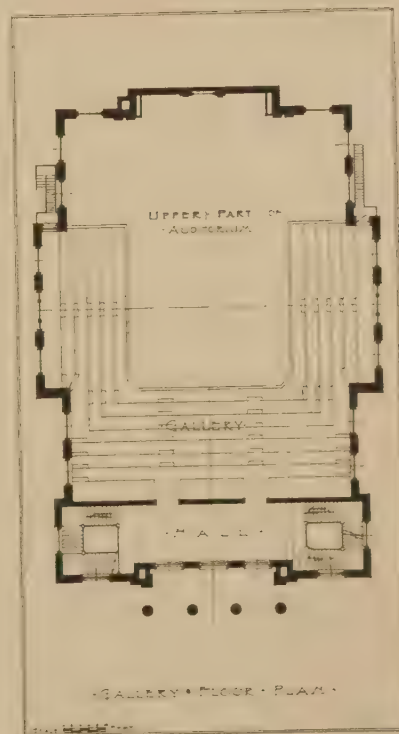
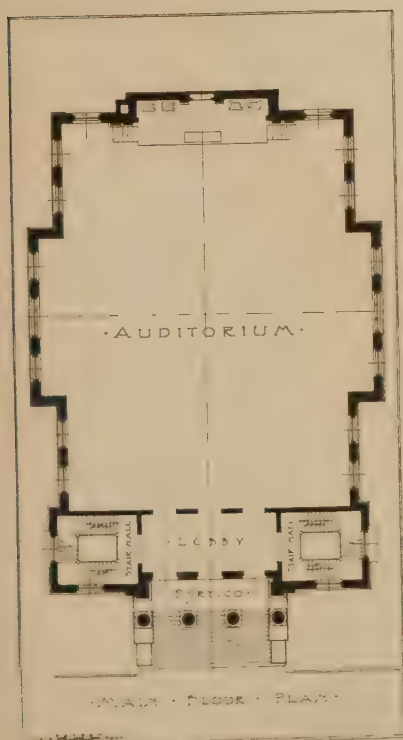
Damon, O'Meara & Hills, Architects.



DETAIL OF PORTICO.

Charles H. Hopson and Harry I. Hirsch, Associate Architects.

AHAVATH ACHIM SYNAGOGUE, ATLANTA, GA.



AHAVATH ACHIM SYNAGOGUE, ATLANTA, GA.

Charles H. Hopson and Harry I. Hirsch, Associate Architects.

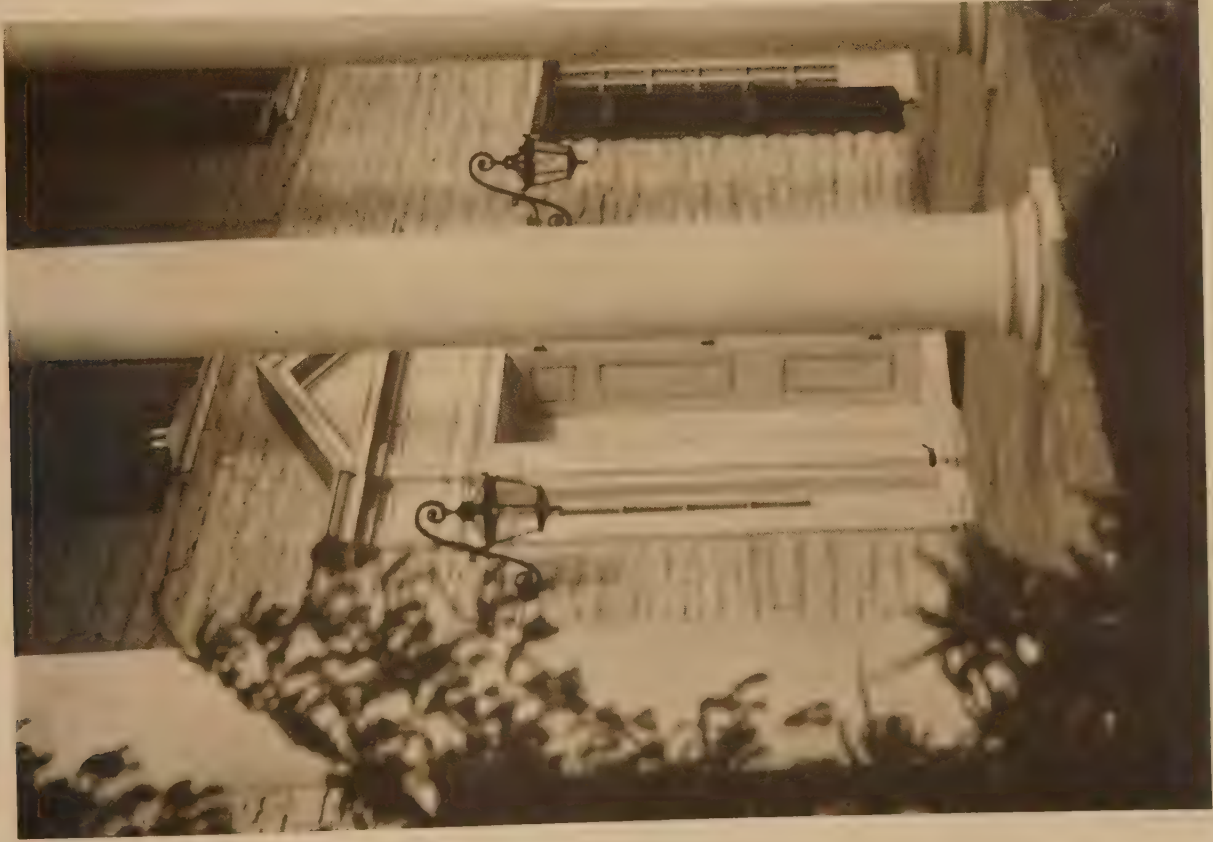


RESIDENCE, GEORGE G. PIERIE, JR., OGONTZ, PA.

Tilden & Register, Architects.

ARCHITECTURE

JUNE, 1922.



PORCH AND FRONT DOOR.

RESIDENCE, GEORGE G. PIERIE, JR., OGONTZ, PA.

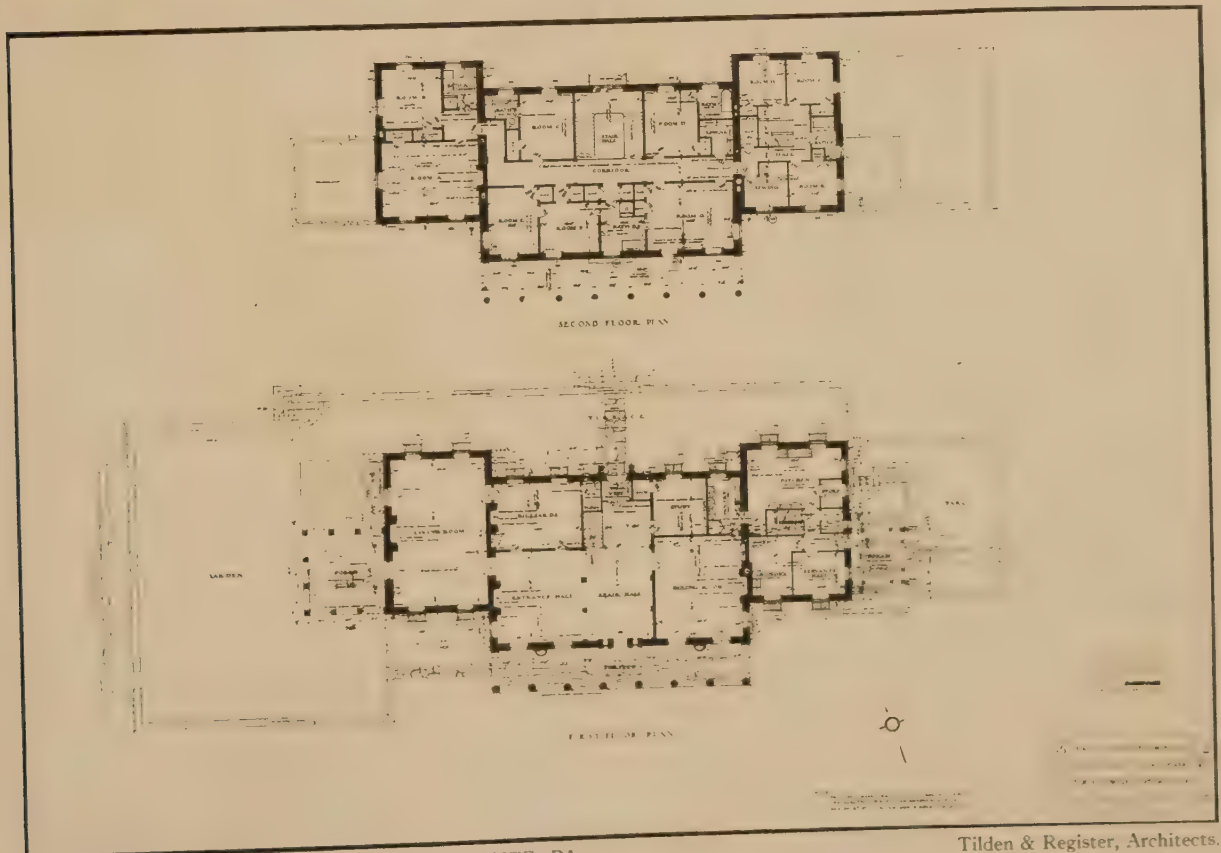


STAIR-HALL.

Tilden & Register, Architects.

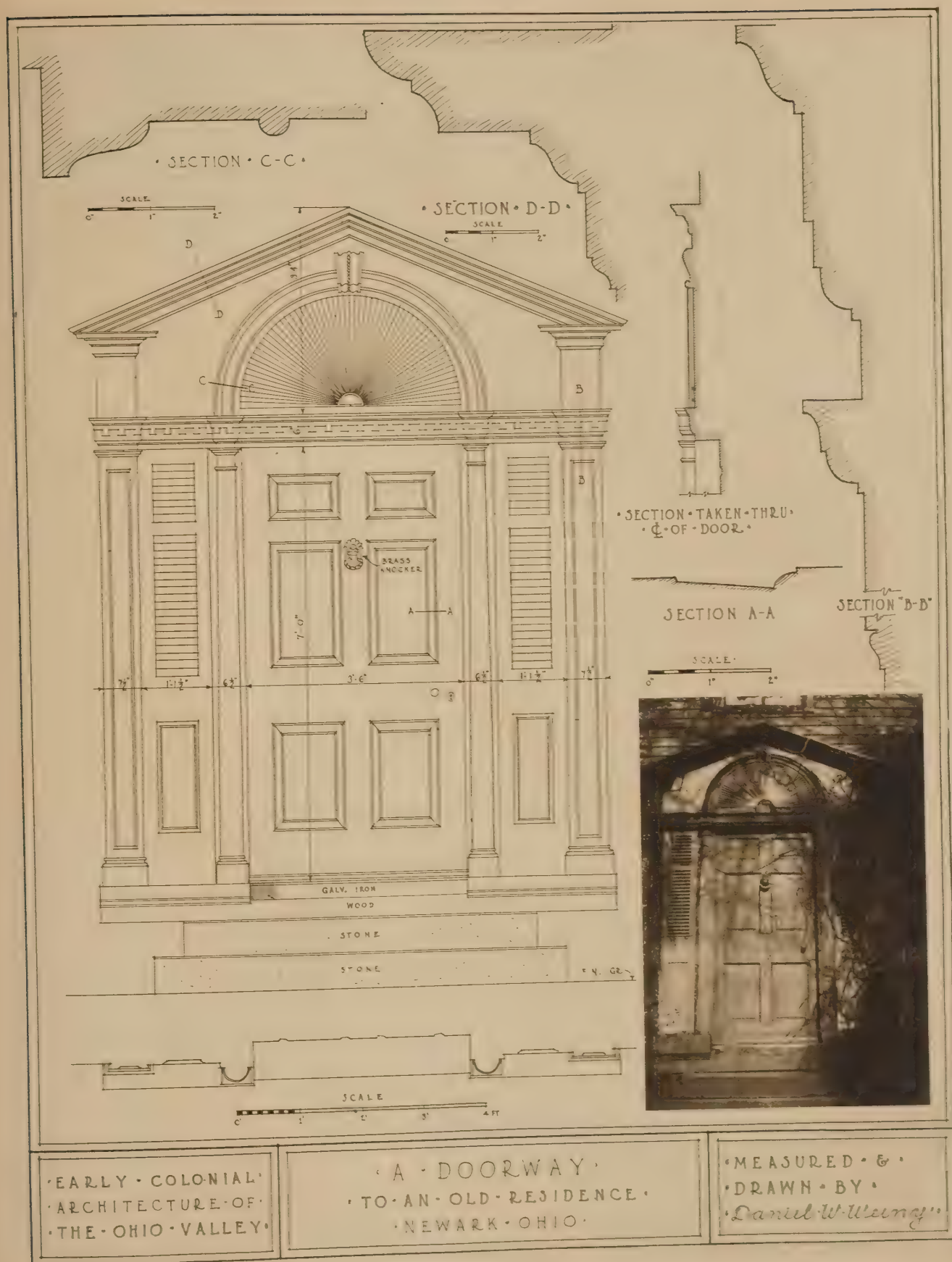


ENTRANCE-HALL.



RESIDENCE, GEORGE G. PIERIE, JR., OGONTZ, PA.

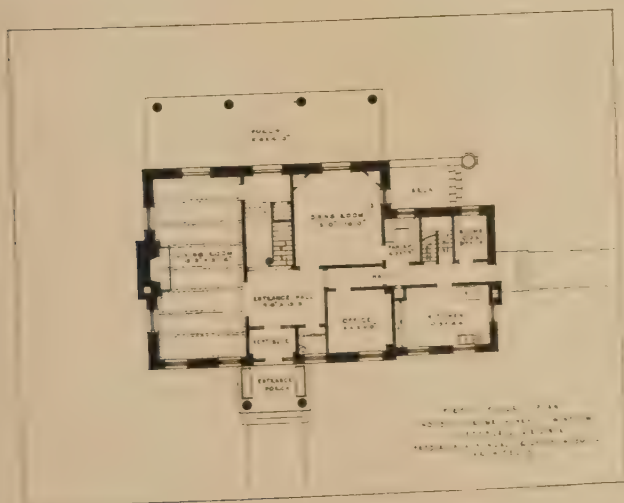
Tilden & Register, Architects.





HOUSE, HENRY C. WINSLOW, LEESBURG, VA.

Frederick A. Kendall and Delos H. Smith, Architects.



HOUSE, HENRY C. WINSLOW, LEESBURG, VA.

Frederick A. Kendall and Delos H. Smith, Architects.

The Chase and Chester Apartments and the Chase Hotel

Preston J. Bradshaw, Architect

LESS than a year ago there stood at the intersection of two of Saint Louis's principal boulevards, Kingshighway and Lindell, one of the city's show places—the Bixby Mansion. This home, with its beautiful setting and spacious grounds, never failed to attract the attention of visitors.

To-day the old mansion is a memory. On its site stand the Chase and the Chester Apartments, and the adjacent Chase Hotel is fast nearing completion. They form a noteworthy group of buildings.

The Chase, which is the larger of the two apartment-buildings, is a structure of brick and terra-cotta on a sub-structure of reinforced concrete. The building faces the south, and presents a dignified and well-proportioned façade.

The two lower stories are in a light terra-cotta, embellished with well-studied detail in low relief. This forms a base for the succeeding stories of mat brick in a pleasing blend of reds.

In the upper stories terra-cotta is again introduced to frame the eighth-story windows, and the entire structure is crowned with a cornice of the same material. The designer has endeavored to minimize all projections, relying on the proportions of the light and dark masses, and on the detail of his ornament, for effect.

The arched entrance doorway, with its iron grilles, leads into an entrance-hall and elevator-lobby done in low-relief plaster and tavernelle marble.

The building contains eight floors of two ten-room suites per floor. Each suite comprises: living-room, dining-room, solarium, two master bedrooms with bath, two guest-rooms with bath, two servant's rooms with bath, kitchen, etc. All rooms are large and well lighted. The living-rooms are 19' x 30', and contain a mantel in carved stone. All the principal rooms have plaster cornices, and all floors throughout are of oak. The bathrooms have tile wainscoting and floors. The master's bathroom is also equipped with shower-bath. Extra large closets are plentifully provided.

Every detail of arrangement for the tenant's comfort has been long and carefully studied, and strict attention has been paid to the workmanship and materials.

The building is equipped with passenger and freight

elevators, the former of high-speed, manual control, with micro-levering device; the latter arranged conveniently to the service portion of the house, reached by an open balcony extending between the wings on the rear. This balcony also gives access to the fire-exit stair and the incinerators.

The Chester Apartment, situated to the west of the Chase, is designed to care for the needs of that class of tenant who does not require many rooms, and still likes the atmosphere of refinement and comfort which this building and its exclusive location provide.

In architectural treatment and construction this building is in harmony with its neighbor, varying only in the details of its embellishment.

The building consists of thirty-two three-room and seven two-room units of the studio type. The three-room units have a large living-room, one bedroom, dining-room, kitchenette, and bath. In the two-room units, the bedroom is omitted. Both units are equipped with closet beds.

Bed-closets and kitchenettes are provided with mechanical ventilation, a very necessary feature in this type of structure.

Both freight and passenger elevator service of the highest standard is provided as in the other building.

This building is flanked on the west by the new Chase Hotel, a high-class residen-

tial structure which is now under construction and which completes the group.

The Chester building and the hotel will be joined by an underground passage, which will enable the tenants to pass from one building to the other, giving them the advantage of hotel service and accommodation while living in their own apartments.

Every feature of modern apartment-house design is included in the building. It is well worth mentioning that in the erection of these buildings, which were completed within ninety working days, a record has been established for structures of this type.

These buildings were erected by the segregated, or sub-let method, by which all contracts were let by the architect for the owner, and the speed and efficiency obtained in erection speak well for this method of operation.



Entrance-hall and stairs, Chase Apartment.



CHASE HOTEL (DESIGN).



CHASE AND CHESTER APARTMENTS, ST. LOUIS, MO.

Preston J. Bradshaw, Architect.



UPPER STORIES, CHESTER APARTMENT.



UPPER STORIES, CHASE APARTMENT.



ENTRANCE, CHESTER APARTMENT.



ENTRANCE, CHASE APARTMENT.

CHASE AND CHESTER APARTMENTS, ST. LOUIS, MO.

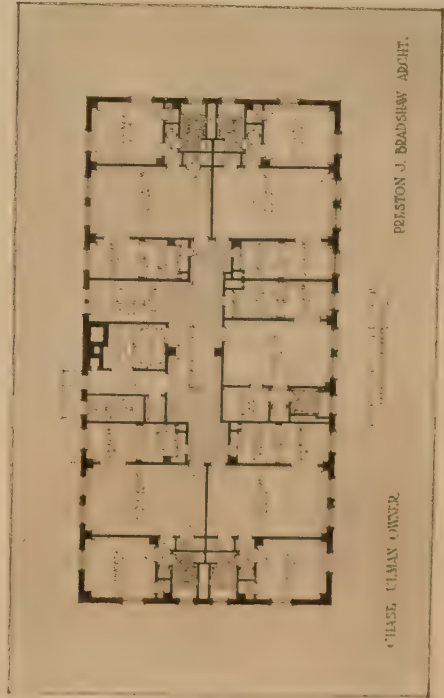
Preston J. Bradshaw, Architect.



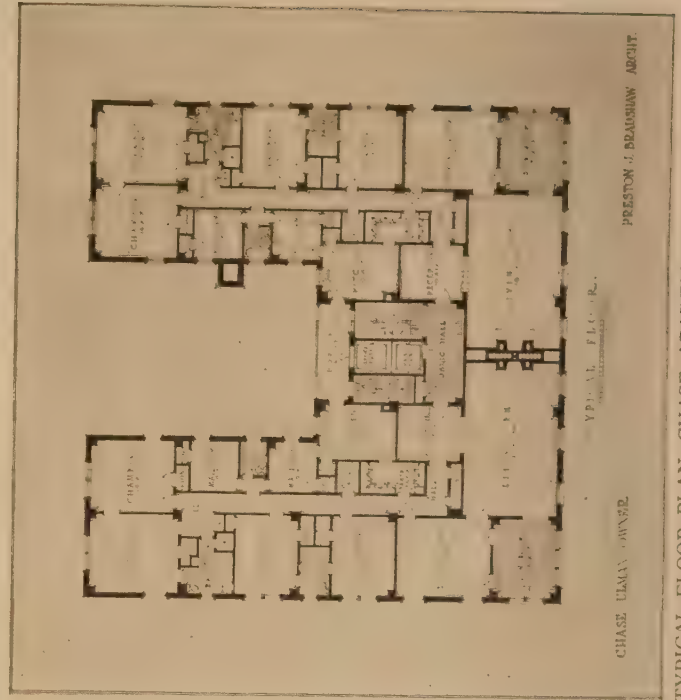
DETAIL, LOWER STORIES, CHESTER APARTMENT.



DETAIL, LOWER STORIES, CHASE APARTMENT.



TYPICAL FLOOR PLAN, CHESTER APARTMENT.



TYPICAL FLOOR PLAN, CHASE APARTMENT.

Architecture as a Human Document—Renaissance and Modern Works

By *Albert C. Phelps, A. I. A.*

Professor of Architecture, Cornell University

From a lecture delivered at the Metropolitan Museum of Art

II

IN my first article I discussed architecture as a human document with special reference to ancient and mediæval styles. In this one I shall attempt to show that Renaissance and modern works reflect no less surely the methods of thought and action, the ideals and aspirations, of their authors. Owing to the complexity of modern life and to long-taught prejudices concerning the Renaissance, it is not always easy to distinguish the leading motives or to clear our vision when considering these later structures.

We are coming to see that the Renaissance was not so much an act of emancipation as a natural development; the succession in its due time of the age of thought to the age of action. The ideal of all-round culture that formed the scheme and groundwork of classic thought is precisely the ideal that we find reasserting itself as the scheme of Renaissance thought. Breadth, spaciousness are essential qualities of Renaissance architecture, just as they are of the structures of classic times, and this is but a reflection of the people of those times.

While the art of the Renaissance has much in common with the classic, there is always a difference corresponding with the difference between the pseudo-pagans of the fifteenth century and the ancients. The former never succeeded in establishing an intellectual ethical system to control conduct and action, but were always haunted by a somewhat vague but spiritually conceived faith in God; and while in architecture there is an obvious turning to the study and imitation of classic works, the style was for long fundamentally mediæval and Christian.

In the dome of Florence Cathedral we have a splendid monument to the genius as well as the patient persistence of Brunelleschi, the first great Renaissance architect. Inspired by the spacious grandeur of the classic Roman structures, he built a modern work, harmoniously completing a mediæval building but conceived entirely in the spirit of his time.

The dwellings of the nobility, such as the Medici Palace at Florence, the Vendramini at Venice, and the Farnesé at

Rome, display the same continuity of development, coupled with a tenacious adherence to modern ideals. In the Medici, or what is more commonly known as the Riccardi, Palace the idea of security is especially evident, recalling the fact that intramural feuds and consequent warfare were by no means outgrown, while the open treatment of the Venetian

palace indicates that personal security depended upon centralized government and naval strength, the individual being left to enjoy light, air, and particularly the pagantry of the Grand Canal by means of large window openings and balconies. In the Farnese Palace we find expressed the growing wealth, power, and influence of church dignitaries.

The Italian villas reflect the admiration of their builders for the antique and yet they were far from being direct imitations of imperial works. The Chigi or Farnesina, the Medici, and the Este, at or near Rome, illustrate this phase of architectural progress.

Such interiors as Raphael's Stanze in the Vatican show the intellectual culture of the sixteenth century in mural decorations of the highest order, and in the splendid interiors of the Ducal Palace at Venice we have a fitting background for the stately but gorgeous costumes of doges and senators.

In St. Peter's at Rome, a work of many minds, but especially bearing the impress of the master mind of the Renaissance, Michael Angelo, we see not so much a Christian church, imbued with the mystery and sanctity of a mediæval cathedral, as the legitimate successor of a great pagan shrine, setting forth with pomp and ceremony the grandeur and dignity, as well as the power, of the "Church Triumphant." And in such later buildings as the Church of the Salutation at Venice we see reflected the joyousness and thanksgiving of the Venetian populace more than the sincere and reverent devotion of an earlier age.

No more favorable field for studying architecture as a human document could well be found than France from the time of Charles VIII to the great cataclysm of the



St. Paul's school chapel, Concord, N. H. Henry Vaughan, Architect.



Saltonstall house, Ipswich, Mass. W. G. French, photo.

Revolution. The introduction of the Renaissance from Italy under Louis XII and Francis I and its development under Henry II present no sudden revolution in style, but a gradual change marking step by step the corresponding intellectual development of the ruling classes.

The châteaux of the Loire Valley, such as the Louis XII and Francis I wings at Blois, the châteaux of Chambord, Chenonceaux, and Azay-le-Rideau illustrate the emancipation from the requirements of mediæval defense and the greater elegance in the mode of living, introduced largely as a result of the contact of the French nobility with Italian culture, due to three successive invasions of Italy at the close of the fifteenth century and the beginning of the sixteenth.

The Château d'Anet, built for Diana of Poitiers, the rival of Catherine de Medici, about the middle of the sixteenth century, is truly a document of its time. Diana is said to have stipulated that her palace should be exclusively the product of French designers and French craftsmen. This wish was not literally observed, but the work is much more nearly national than that at Fontainebleau, where the Italian influence was always strong.

When, toward the close of the sixteenth century, Henry IV, the first Bourbon monarch, found himself seated on the throne of France, classicism became established as the ideal of the French artists. It was some time, however, before it was clearly understood, and yet the architecture and decoration display a rugged picturesqueness, which, though at times coupled with a grotesque richness, does not lack a definite charm. The old houses of the Place des Vosges, formerly the Place Royale, and the Hotel La Vallette in Paris are good examples of the work of the time.

Perhaps there is no pleasanter way to refresh our memory concerning the spirit of the first half of the seventeenth century than by recalling the atmosphere of daring adventure of Dumas's "Three Musketeers" and "Twenty Years After." The architecture of the time formed a perfect background for those stirring scenes that the great writer depicted so vividly.

Under Louis XIV a style was developed reflecting more directly than that of any other period the personal taste and qualities of the reigning sovereign. One needs but visit the gardens of Versailles or wander through the *salons* of that stupendous palace to appreciate more keenly than would be possible by long months of serious study of the literature of the time the real greatness of the period as well as its pompous insincerity.

The styles of the Louis were largely artificial, as they were apart from the people and developed in turn in an atmosphere of punctilious ceremony, voluptuous license, and

affected naturalism or archæological pedantry. But, notwithstanding this unreality, they are easily among the most brilliant and charming productions of any age.

One needs but take a similar bird's-eye view of English architecture from the time of Elizabeth to the end of the eighteenth century to trace the somewhat crude but evident sincerity of the earlier customs as reflected in the quaint manor-houses, the later pompousness as seen in Palladian architecture, and the pedantic or unaffected elegance expressed in the Georgian interiors and furniture design.

When we come to nineteenth-century architecture, we are at first confronted with revivals. The Roman revival under Napoleon, that appears so artificial now, when viewed from a distance, was certainly a reflection of the ideal of the First Empire, comprising the revival of Roman imperialism in state and society. Notwithstanding the fact that legislators clad themselves in Roman togas, that ladies of fashion adopted classic garb, and that churches took the form of temples and commemorative monuments of triumphal arches, contemporaneous influences were not and could not be ignored. The propriety and refinement of the old régime were generally lacking, and in Josephine's home at Malmaison one sees revived classicism curiously mingled with forms inspired by military campaigns, as in the council-chamber, designed to look like the inside of a tent.

The Néo-Grec movement and the Gothic revival succeeded the Empire style in France; the one leading to greater refinement in detail, the other to greater frankness in treatment and more sincerity in the use of materials, and underlying both was much of the rationalism advocated by Viollet-le-Duc and so sadly misunderstood by many of his contemporaries.

In spite of certain vagaries that have appeared from time to time, and the manifestation of sufficient individuality, the modern architecture of France presents great unity of style and sincerity of purpose, and her splendid public buildings exhibit that nobility of character so clearly but unostentatiously displayed by the French people under their recent trials.

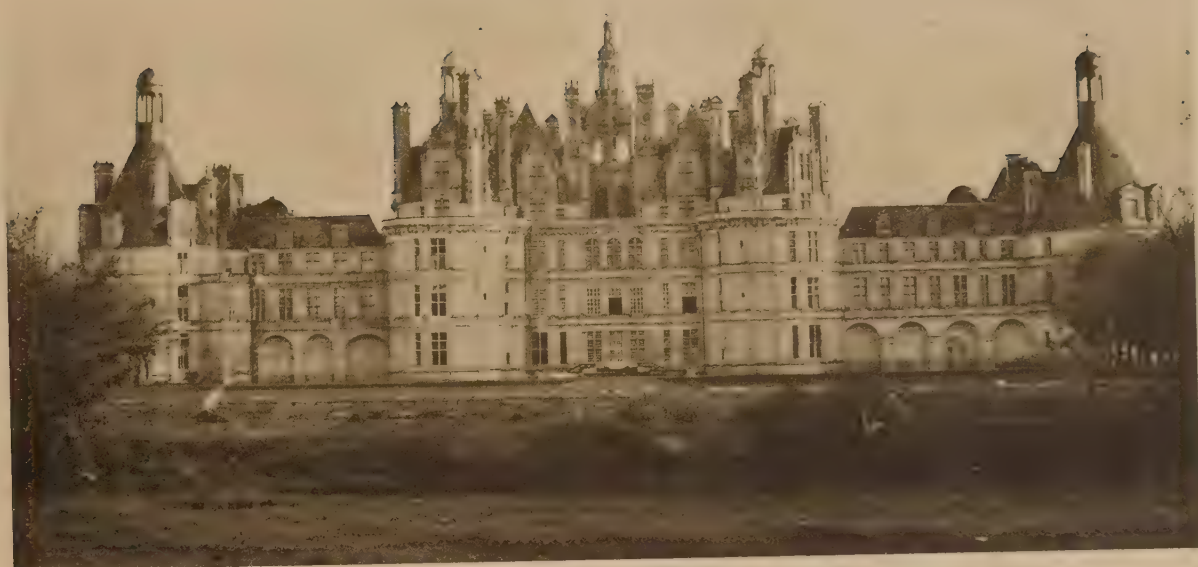
In Great Britain and Germany the classic revival was much more strictly archæological, and therefore, on the whole, more artificial. Although producing some notable monuments, such as St. George's Hall at Liverpool and the Old Museum at Berlin, too many of the structures were less appropriate, in spite of the fact that they were the result of an earnest striving for monumental dignity. Among the latter may be mentioned the high school at Edinburgh, the Walhalla at Regensburg, the Ruhmeshalle, Propylæa, and Glyptothek at Munich.

The Gothic revival in England at first produced such

(Continued on page 194)



Piermont, N. J. W. G. French, photo.



CHÂTEAU DE CHAMBORD.



ROMA. PALAZZO AND PIAZZA FARNESE.



Alexandria, Va. W. G. French, photo.

(Continued from page 192)

curious structures as the manor-house, Fonthill Abbey, known as "Beckford's Folly." Beckford is said to have instructed his architect to design "an ornamental building that should have the appearance of a convent, be partly in ruins, and yet contain some weather-proof apartments." The High Church or Tractarian movement gave a great impetus to the Gothic revival till critics and a large body of the public came to look upon the pointed arch, the buttress, and other features of the Gothic style as inherently sacred and the forms of classic architecture as pagan if not really idolatrous. Some earnest and capable men worked in the style, among whom should be mentioned Sir Charles Barry, Sir Gilbert Scott, and George Edmond Street, who, in the Parliament Houses at Westminster, the restoration of numerous cathedrals, and the law-courts of London, showed great archæological knowledge and some skill in clothing modern structures in a mediæval garb. Geoffrey Scott, discussing the Gothic revival in his "Architecture of Humanism," says, with considerable keenness of insight: "Technic, organization, vigor, understanding—everything, in fact, were wanting to it. It illustrates, as abundantly as one could wish, the effect upon architecture of an exclusively literary attitude of mind."

A comprehensive review of recent British architecture remains to be written. Although much of an uncomplicated character might be said of the mid-Victorian work, the last decade of the nineteenth century and the period immediately preceding the Great War saw a revival in both taste and creative ability on the part of public and practitioner. Much inspiring and sincere work was done, as evidenced by churches and houses in all parts of the king-

dom. Bentley's great Roman Catholic Cathedral at Westminster, Bodley's church at Hoar Cross, and Lorimer's delightful chapel of the Order of the Thistle at Edinburgh occur to all; while the domestic works of Lutyens, Lorimer, Voysey, Dawber, Willmott, and others are too numerous to mention. Something of French logic and monumentality seems gradually to be finding its way into English architecture, without displacing the traditions of Wren and Gibbs, in many public works, or the delightful feeling for surfaces and textures in the lesser structures.

The history of architecture in America I hardly need review. Our Colonial work was based largely upon Georgian precedent, but was handled with a propriety and understanding that arouse the envy and admiration of many present-day architects. One needs but travel along the Eastern seaboard from Portsmouth to Charleston, South Carolina, to perceive the frankness with which the climatical conditions and social requirements were met in the different localities, and the cleverness, even elegance, incorporated in buildings of various kinds.

In the work of the classic revival there was, doubtless, a pedantry and a forcing of the practical solution of the problem to fit a preconceived exterior, but after all there is a fine dignity in these old structures which makes it hard for us to understand how popular taste and architectural fashion could stoop to the atrocities of the period succeeding the Civil War that has been designated as the "Reign of Terror" of our architectural history. Mr. Winston Churchill's comments on the house of a rich man, in "The Celebrity," would fit many buildings that we all can remember. The rich man says: "I had all these ideas I gathered knocking about the world, and I gave them to Willis of Philadelphia to put together for me. But he's honest enough not to claim the house. Take, for instance, that minaret business on the west; I picked that up from a mosque in Algiers. The oriel just this side is whole cloth from Haddon Hall, and the galleried porch next it from a Florentine villa. The conical capped towers I got from a French château, and some of the features on the south from a Buddhist temple in Japan. Only a little blending and grouping were necessary, and Willis calls himself an architect and wasn't equal to it. Now," he added, "get the effect. Did you ever see another house like it?"

The Gothic revival, well shown in Grace and Trinity Churches and St. Patrick's Cathedral, was largely a counterpart of the same movement in Europe. Such later Gothic buildings as the Church of St. Thomas and certain collegiate works are hardly to be classed in this group, for the spirit of the old style has been so merged in our present-day life that the work exhibits great vitality and appropriateness.

Our recent architecture has shown a decided tendency toward eclecticism, with a leaning at one time to the French Romanesque, as in the works of Richardson and his followers; later to the Italian Renaissance under the able leadership of McKim, Mead & White, Charles Platt, and others; and has also been influenced by modern French, Elizabethan, Georgian, and even the Secession work of Germany.

Notwithstanding all this eclecticism and apparent lack of conviction, American architects have succeeded in developing new and logical methods of construction and in producing not only impressive and practical tall buildings but civic structures and homes rarely equalled among European works. Some of us feel that there is an underlying principle of unity gradually taking shape in American architecture, and if the much-vaunted and perhaps, too con-

sciously desired American style has not appeared, who can say that it is not in process of formation? A recent writer has said truly: "If there is anything that a survey of the history of architecture shows clearly, it is that all that is great in architecture has arisen from the desire to do something fine and noble for its own sake; and where there is not that desire there will be no great architecture."

Probably we are too near present-day work fully to

understand it, but we may be sure that, whether we will it or not, our architecture is a record of our progress. Whether it shall record our best aspirations or, as too often happens in America, an overwhelming mediocrity, depends by no means solely upon our architects, but upon the development of an appreciative interest on the part of cultured people generally, and especially of our leaders in thought and action.



Exhibition building.

Propylaea, Munich.

Glyptothek.

Announcements

Oscar T. Lang, Arnold I. Raugland, and Carroll E. Lewis announce the opening of an office for the practice of architecture and engineering under the name of Lang, Raugland & Lewis, Architects and Engineers, 627 Metropolitan Bank Building, Minneapolis, Minn. Manufacturers' catalogues and samples desired.

Andrew J. Thomas, architect, announces that, beginning May 1, 1922, his office will be located at 15 East 47th Street, New York City.

Thomas Pringle, M. A. I. A., registered architect, announces the removal of his offices to 705-706 Renshaw Building, 217 Ninth Street, Pittsburgh, Pa.

R. Guastavino Co., announce the removal of their New York office to the St. James Building, 1133 Broadway, New York, on May 1, 1922.

Richard E. Schmidt, Garden & Martin, architects, announce the removal of their offices on May 1, from the 11th to the 15th and 16th floors of the Monroe Building (entrance at room 1515), 104 South Michigan Avenue, Chicago, Ill.

Charles Glenn, building construction, announces the removal of his office to 252 West 46th Street, New York.

"How to Build a Better Home," is the title of a book on building issued for free distribution by the Copper and Brass Research Association of 25 Broadway, New York City. The book is attractively illustrated and contains information of value to every prospective home-builder. Each phase of the home is dealt with in a most thorough manner. It offers various suggestions as well as answering many questions that confront the home-builder. A chapter is devoted to the roofing problem. Illustrations show various types and the proper manner to apply the material.

One of the striking features in this chapter is a picture of a copper down spout that has been in use for seventy-six years and is in a perfect state of preservation. Another picture shows a costly junk pile of discarded galvanized iron down spouts that had only been in use a few years when the weather brought them to ruin. Another interesting chapter pertains to plumbing; one to hardware fixtures; one to heating and another to decorations, etc. The contention is made that the everlasting metals—copper, brass, and bronze—would be universally used if it were not for their slightly higher cost.

James Chillman, Jr., has been appointed assistant professor in architectural design at Carnegie Institute of Technology, Pittsburgh. Mr. Chillman, for the past three years, has been studying at the American Academy at Rome, as the holder of the Roman Prize Fellowship. His work at Carnegie Tech will begin next September.

He is a graduate of University of Pennsylvania in the class of 1914, with the degree of Master of Arts. For some time he was an instructor at the University of Pennsylvania, and for several years was instructor in architecture at the Rice Institute, Houston, Texas.

His studies in Rome have been of the Italian Renaissance in its relation to Colonial architecture. Mr. Chillman has also done some important research and restoration work at Hadrian's Villa, in Tivoli. The appointment of Mr. Chillman is expected to add strength to an already strong department.

Mr. Bickel, formerly of May Building, Pittsburgh, Pa., announces his new address, Walter J. Bickel, registered architect, Box 197, Route 3, Phoenix, Arizona.

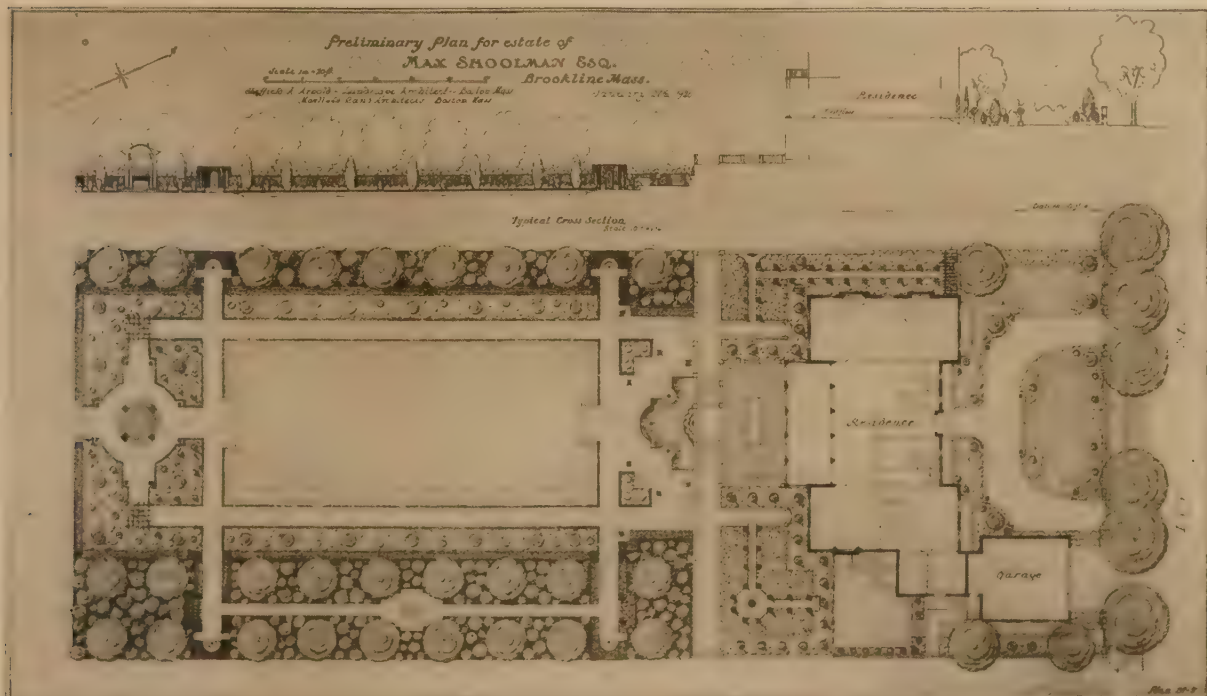
Welsey P. Ridenour announces the opening of an office for the practice of the profession of architecture in room 711, First National Bank Building, Portsmouth, Ohio.



Mowll & Rand, Architects. Sheffield A. Arnold, Landscape Architect.



RESIDENCE, MAX SHOOLMAN, BROOKLINE, MASS.



RESIDENCE, MAX SHOOLMAN, BROOKLINE, MASS. Mowll & Rand, Architects. Sheffield A. Arnold, Landscape Architect.



A PAIR OF PAINTED DOORS.

The painted doors consist of six panels, representing the life of Sainte Marie l'Egyptienne (now the patron saint of the gypsies). On the margin of the four smaller ones, the story of the saint is written in old French, with letters found on a Lombardian manuscript of 1337 at the Morgan Library. The subjects of the panels are the following:

- I. Marie leaves home, at the age of twelve, going to Alexandria.
- II. In Alexandria, Marie lives as a courtesan and receives a brilliant company.
- III. Marie crosses the sea with some pilgrims, bound for Jerusalem.



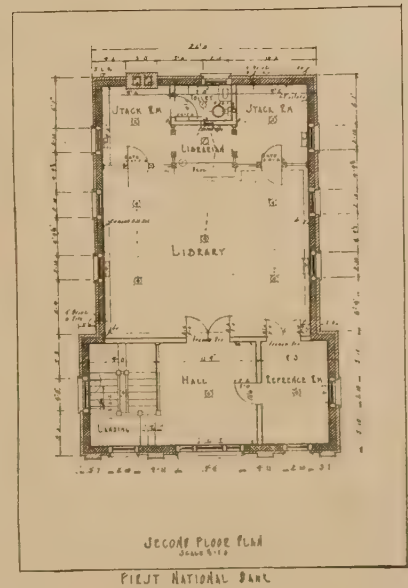
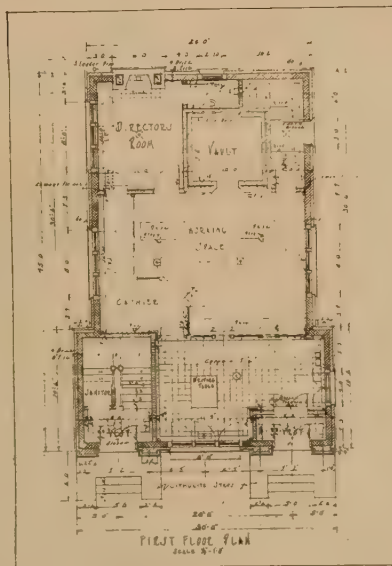
By Eyre de Lanux (Mrs. Pierre de Lanux).

IV. Marie is found dead in the desert, by Zosimus, after she has lived a holy life there for many years. A lion helps Zosimus to bury the corpse.

V. (Large panel in the centre of the left door.) Marie enters Jerusalem and walks toward the temple.

VI. (Large panel of the right door.) Marie in heaven, among the elect.

The doors, of seasoned oak, have been first gessoed, according to the old teaching, then painted in tempera, with a frequent use of gold-leafing for the backgrounds, garments of wealthy persons, etc. Special latches and hinges have been designed.



BANK AND LIBRARY BUILDING, MARCELLUS, N. Y.

Harry D. Phoenix, Architect.

Use of Models in the Study of Architecture

By Professor William Alciphron Boring

Director, School of Architecture, Columbia University



No. 1. Painting the elevations of the various sides of the model upon mounted Whatman paper.

THE teaching of architecture, like all thorough instruction, is directed more to training the student to use his imagination, to think soundly, and to visualize correctly than it is to give them facility in technic. If we can inculcate a high ideal, a logical method of solving a problem, and a respect for beautiful form, we will have accomplished the main purpose, and the student can safely be left to pursue his work alone after he leaves the university.

Architecture is a subject which as a matter of convenience must be taught by drawings and models as well as by observation of the erected buildings, but the end and aim of architectural instruction is to teach the students to build good buildings rather than to make beautiful drawings. To this end they must be able to visualize their conceptions in form of three dimensions instead of thinking of them as drawings. Drawing usually teaches the student to think in two dimensions, like plane geometry, but architecture really exists in three dimensions, like solid geometry.

Facility in drawing is necessary as one of the processes of study, but after the process passes a certain point the importance of the drawings grows less, and the actual round form of the building becomes more important. At this stage it appears advisable to introduce the making of models which really represent, in small scale, the building "in the round," and permit a study of the structure from all points of view. The nearest approach to a correct concept of the finished structure is thus given in a practicable form.

If it were not too expensive in time and money all buildings should be first tried out in full-sized models properly colored, so that they could be studied carefully before the work is executed. It is a common practice to have the cornice erected in model and studied from the street level before the actual cornice is built. Since it is impractical, however, to carry out this plan for the usual problem, the most feasible substitute is a small-scale model which represents the design.

Drawings of a building, after all, might be considered as guesses as to how to represent a thing in drawings which will look well in a finished building, except in cases where a known and tested detail is used, and the best architect is the man who can best guess as to what will be the effect in the round of a drawing in the flat.

The Japanese architects for their simple buildings draw plans and elevations of their buildings on one sheet so arranged that the sides fold up, thus forming a model of the house with the roof folding over the side walls. The details of the exterior are drawn on the outside of the sheet, making an exterior model, and the insides of the rooms are drawn on the inside of the sheet, showing the actual detail of the interior. These drawings fold down flat in a neat package, but when shown to the workman or client are set up to form a good model of the real structure. We, having more complicated buildings, cannot follow this method exactly, but we can with cardboard make models which will serve a similar purpose.

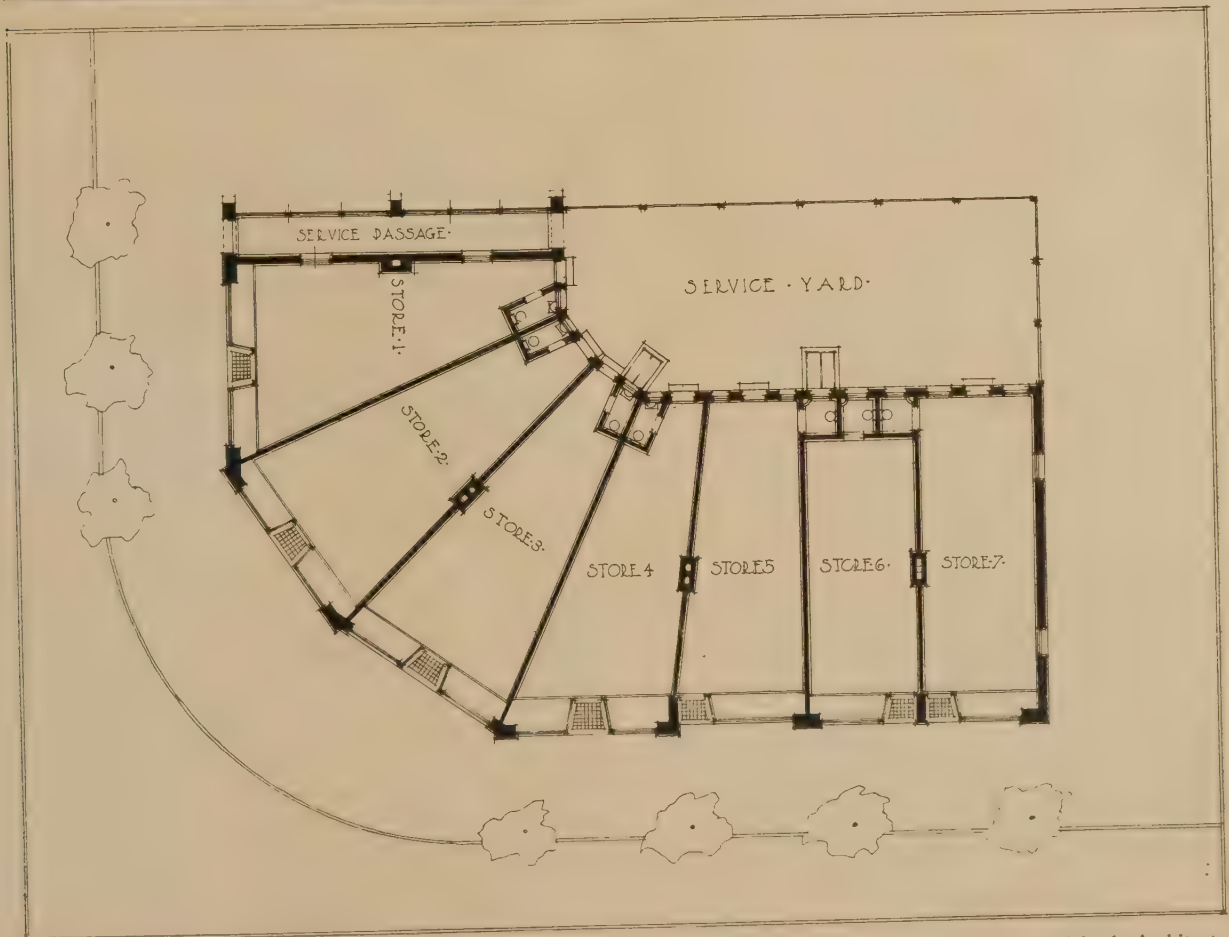
In the olden times, when there were competitions for important buildings, competing architects always submitted models. A very elaborate one is still in existence in St. Peter's at Rome, and in the museums of Italy will be found numerous models on a small scale. These models were usually made laboriously of wood. In religious paintings we often see pictures of models of churches rather than drawings of churches. The old masters did not make elaborate drawings as we do to-day, but depended more upon the use of simple outline drawings and modelling for the working out of problems.

The greatest value of a model is to show the scale of the projections of parts and details of buildings which cannot well be shown by drawings. Perspective drawings show well from one point of view, but a model shows accurately from every point of view, giving the exact relation of projections which can be judged more accurately from a model

(Continued on page 202)



No. 2. Gluing and fitting the side elevations, cut from the mounted Whatman paper, together.



GROUP OF SMALL SHOPS, MONTCLAIR, N. J.

C. C. Wendehack, Architect.



No. 3. A group of three models of a schoolhouse group with gymnasium made by competing teams of students. They show three different solutions of the same problem.

(Continued from page 200)

than from any drawing. If a completed model is observed with the eye at the correct level, particularly if viewed through a small hole in a card, the simulation of the completed building in the natural size is convincing and a correct method of criticising and judging the design. The model is useful especially in Gothic work, which involves the use of many planes at various angles that cannot well be shown in drawings.

If he has a natural facility in drawing, the student is likely to become enamored of that phase of the study of architecture, and is inclined to permit the pleasure of representation to crowd out the real study of the actual appearance of the building represented, and for that reason the School of Architecture of Columbia University is emphasizing the necessity of close observation and comparison of actual buildings and forms. Students are trained to see buildings and to think in terms of buildings rather than in terms of drawings, but this is not carried to a degree which detracts from the true value of drawing in composition.

Models are easily made, they are inexpensive, can be colored without difficulty, and surrounded with all of the accessories, such as trees, walks, grass, etc., they give a fair picture of the building as it will be when completed. The making of a model of an ordinary building occupies about one-third of the time necessary to make the design. The plan is accurately drawn to scale on cardboard, and cut on the outside line, the elevations are drawn with details indicated and erected on the plan, and over this the roof is fitted. The student thus goes through the same general motions pursued by the builder in constructing a house, that is, first the foundation is built, then the walls, then

the roof. If some part does not satisfy the critic, it is easily changed in the model until a perfect result is attained with precision, provided the designer is capable of producing a good building. There are two kinds of models which the student should learn. One is the scale model of the building which will show in its entirety a large structure in a model not too large for a table-top; and the other is the accurate modelling of the details of ornament which are to form parts of the building.

In developing the detail models we have in Columbia a sculptor of marked ability in charge of instruction in modelling, who gives the students in this course a correct idea of the beauty of form and design in clay-modelling.

The wonderfully facile drawing of architecture taught by the French school of to-day does not give a correct idea of the building when built, because it is not studied from the point of view of the constructed building, but from the point of view of a picture. It is noticeable that men from the Ecole des Beaux Arts usually go through a moulting season when they return to America, dropping much of their facile indication and substituting careful study of real form and simplicity.

Our best architects have never been known as great picture-makers, and our most successful practitioners lay the greatest stress upon the building itself as studied in model as well as drawings. Study of the drawings by the great masters of the Renaissance in the Uffizi Gallery at Florence and of the models made for their buildings easily convinces one that this method of study and representation is necessary if one is to produce a beautiful building.



No. 4. A close view of the model of one of the schoolhouses, showing the realistic effect that painting and shadow will produce in the details.

The Codman Collection at the Metropolitan Museum of Art

AMONG the little-known advantages for manufacturers and designers which are almost within arm's reach of the desk or drafting-room, is the collection of books and prints of ornament lent to the Metropolitan Museum by Ogden Codman. This collection has been arranged in a special room adjoining the Print Room of the Museum, for which Mr. Codman provided bookcases, chairs, tables, a rug, and framed prints, in order that the collection might, as nearly as possible, be housed as it might have been in an architect's or interior decorator's working library. As the collection is intended only as a reference collection for ma-

ture students and practising members of the several professions that use this kind of material, it is proposed to let those persons have free access to the shelves.

The collection was made for his own use by a practising architect and interior decorator who happens also to be a collector and bibliophile, and who therefore took pleasure in adding to his shelves as need and opportunity arose many of the rarer and more noteworthy as well as the more familiar printed documents bearing on his art as practised in France, England, and the United States in the eighteenth and early nineteenth centuries.

From the Bulletin of the Metropolitan Museum of Art.



A CHURCH IN FRANCE.



SOISSONS CATHEDRAL BEFORE THE WAR.



OLD BRIDGE AT TOURNAI, BELGIUM



GATE—ROTHENBERG.

Etchings by Lester E. Varian, Architect, Denver, Colo.

Uniting the Construction Industry for the Common Good

FOR the first time in the history of American industrial development a great industry has united all its elements—manufacturers, labor, and the professional branches—in a great effort to raise the standards and efficiency of the industry and improve the service which it renders the public. It dips down into the industry and brings together for conference, for betterment of understanding, and for common action, the architects, the engineers, labor contractors, materials manufacturers and dealers, bankers, and insurance men—all elements concerned with building work of any description and with the construction of public works, railroads, bridges, irrigation works, etc.

It is stipulated that all the work of the council must square with the public welfare, and so dominant has this idea been in the preliminary conferences that Secretary of Commerce Hoover, seeing the benefits that will result, has taken the responsibility of presiding at the formal organizing meeting in Washington, D. C., June 19 and 20, and Franklin D. Roosevelt, of New York, former assistant secretary of the navy, has agreed to accept the presidency of the organization.

The possibilities of the new organization are tremendous. If the reader were asked to tell what construction really is, the reply would probably be, "housing" or "plant construction and commercial building" or "highways and bridges, railroads and canals" or perhaps "terminals for railroads and ship traffic or irrigation and reclamation projects." Yet all of these are merely divisions or classifications of a single industry and should always be included in the thought of the whole.

Instead of thinking of the building of houses as the individual expression of the fancy of the individual citizens, of the building of highways and railroads as merely the means of an industry we call transportation, of factory building and hydroelectric construction as isolated enterprises embarked in by isolated groups of individuals for private gain, we must think of construction as we do of agriculture, or of mining, or of manufacturing—as one of the great creators of permanent wealth, as one of the foundation-stones in our civilization on which our progress is built.

Already indications of this are evident. Construction reports have become equal to crop reports as barometric indicators of the material prosperity of the country. On their rise and fall depends the well-being of millions of our people, the success of great enterprises, the future welfare of our citizens.

The popular belief is that American industry is divided into four basic industries: (1) agriculture, (2) manufacture, (3) transportation and communication, (4) mining and forestry. Such a classification leaves out of consideration, however, what has been demonstrated after investigation to be the second most important industry in the country, namely, construction. When considered from the standpoint of the yearly volume and money involved, this comes second only to agriculture and is among the first of all industries when expressed in terms of the labor. Investigation has shown that the number of workers, who together with their families depend upon the construction industry for a livelihood, totals approximately 11,000,000 persons. It was conservatively estimated that 24 per cent of our annual capital accumulation and over 50 per cent of our national savings are absorbed by this great industry every normal year. Approximately nine-tenths of all iron, copper,

and zinc and 95 per cent of all the lead produced in this country are consumed in construction.

The support given to agriculture and to trade by the annual expenditures of this great number of persons is almost too apparent to need discussion. The following table shows the way in which over \$5,000,000,000 are disbursed and gives an excellent idea of the wide range of benefit from the expenditure of wages paid in the construction industry. The proportions are those established by the National Industrial Conference Board.

Rent.....	\$756,500,000
Fuel and light.....	214,500,000
Food.....	1,598,500,000
Clothing.....	663,000,000
Medical attention.....	113,000,000
Reading matter.....	41,500,000
Church and charity.....	46,500,000
Furniture, furnishings, and general supplies.....	126,000,000
Recreation.....	229,500,000
Savings.....	600,000,000
Unclassified.....	601,000,000

Yet in this mighty industry each element has, with rare exceptions, acted by itself, looking after its own interest, neglectful generally of the rights of the other elements, and often indifferent to the rights of the public.

Since the war this lack of co-ordination, of actual understanding, and of consideration of the service rendered the public has stood out more strongly than before. During the war it was necessary to postpone all but essential construction, leaving us, at the close of 1919, with an enormous deferred volume of construction work. In 1920 we began to catch up, to fall back again in 1921; to-day we have a deferred total valued by students of the industry at \$10,000,000,000. Of the housing shortage, an important part of this deferred construction, the general public is well aware. Yet the shortage exists in every line of construction. We have not enough office-buildings or schools, railroads or highways, while sewerage, water-supply systems, and paving are far behind present needs. This shortage has put great pressure on every branch of the industry and has forced it to study anew its relationship to the whole. Moreover, the public has lacked confidence in the fairness of building costs and this has added to the pressure put upon the industry. Not only has each of the elements been re-examining its position and responsibility, but efforts at co-ordinated work have been made. The National Federation of Construction Industries, a war-born organization, was continued after the armistice in an effort to pull the industry together nationally, and has achieved some excellent results. The building congresses, with notable successes at New York, Seattle, and Portland, Oregon, attacked the problem locally. The National Board for Jurisdictional Awards representing labor, contractors, architects, and engineers, and the Joint Conferences of Engineers, Architects, and Contractors on Estimating and on Standard Contracts have each tackled specific problems common to the whole industry and demonstrated the need as well as the practicability of co-operation for the good of all.

THE premiated design for the great north window of the West Point Military Chapel is being carried out at the Willet Studios in Philadelphia. The window is to be a memorial for the alumni who died in the World War. The design is the collaborative work of the late William Willet and Annie Lee Willet.

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